IT OUTSOURCING DESTINATION:

RUSSIA

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WHITE PAPER
RUSSOFT Association
Date: June 15, 2005

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IT OUTSOURCING DESTINATION: RUSSIA

Summary

This paper opens the Research Series published by RUSSOFT, the nationwide Russia's Trade Association of software development and IT services companies. This paper is intended for software and IT sourcing decision makers and other executives in charge of IT outsourcing strategies. This document provides up-to-date overview of the Russian IT outsourcing industry and can serve as an input in an assessment of Russia's outsourcing capabilities.

Introduction

There is a lot written about Russian IT and software development capabilities, and the opinions are so diverse that no other country, in our view, has experienced such polarization of analysts and other influencers towards Russia. Some claim that "Russians are the best in the world when it comes to software" as it is written by Kathleen Goolsby from OutsourcingCenter.com. Steve Chase from Intel Russia says, "When it comes to writing complex computer programs, the Russians are absolutely tops." Other sources, like A.T. Kerney in their famous report, position Russia very low on a scale among the countries potential for software outsourcing. Despite the fact that Gartner Group estimates that by 2007, Russia will have captured a 5 percent market share of offshore services revenue in North America and Western Europe, its SWOT analysis of Russian IT outsourcing industry leaves a pretty bleak picture. Recently, one of the most up to date SWOT was published by the Offshore Development Group in which it clearly stated: "Russian IT outsourcing business has changed over the past 5 years and the US perception lags behind the reality."

To address the reality of the Russian IT market and to demystify Russia as a place for outsourcing IT, we initiated this Research Series. We would like to start this White Paper with presenting SWOT diagram on Russian Offshore Outsourcing created by Gartner Inc. in the beginning of 2004:

SWOT for Russian Offshore Outsourcing

Strengths	Weakness/Challenges
■ Elite university system ■ Highly skilled and ample workforce ■ Array of specialised expertise capable of solving large-scale, complex technical problems ■ Cost of labor advantage compared with the US and Western Europe ■ Geographic proximity to Western Europe and the US ■ Cultural proximity to the West	■ Marketing and sales skills. No organised campaign. ■ ESPs: small and just a few ■ Business competency ■ Strategic planning ■ Slow to develop NASSCOM-like organisation ■ Narrow offering (usually AD, not BPO) ■ Lack of track record in world markets ■ Perception of: corruption, lack of intellectual property protection
Opportunities	**Threats/Risks**
■ Expansion to Western Europe ■ Provide geographic diversity - an alternative to India for risk-mitigation purposes ■ Capability to offer specialised engineering applications ■ New, good U.S./Russian relations	■ India, China and other competitors ■ Government inaction: govt promises for support should be materialised

Source: Gartner Inc. "Russia Is Building Up Its Offshore Services Credibility", Joseph Feiman and Ian Marriot, October 2004

At the time of its creation (beginning of 2004), the above SWOT diagram objectively portrayed the state of Russian Offshore Outsourcing industry. Significant changes have occurred since that time. This document provides an objective assessment of recent changes and a current overview of the industry as of June 15, 2005. Clearly, the document does not intend to position Russia as an outsourcing destination of choice for everybody. Authors do realize that each organization has unique outsourcing needs in place. The objective of the document is to provide factual up-to-date information that can serve as an input to particular decision framework for choosing an optimal outsourcing destination.

Strengths

Let's look objectively at strength factors that apply to Russia as an outsourcing destination.

Human Resource

Scale

Currently, Russia ranks number three in the number of scientists and engineers per capita worldwide. There are more than 250 global companies that are active in Russia-based offshore software development. Boeing has their development center in Moscow, its largest development center outside of the US. Companies like Alcatel, Motorola, Dell, Intel, Siemens and Sun Microsystems have their R&D centers in Russia. According to RUSSOFT, Russia's IT services association, there are approximately 250,000 IT professionals in the country. The number of developers oriented to export services is somewhere between 25,000 and 30,000. Russian external service providers (ESPs) typically have approximately 30 percent of their developers certified in programming skills such as Java, .NET, and database management system (DBMS) database administration. Although there was a brain-drain to the West – the USA, Germany, UK, and other countries – which started in the 1980s and continued through the 1990s, there are still plenty of IT developers in Russia. Universities and other higher education technical institutions successfully compensate for losses by training new generations of professionals:

Russia's New IT Labor	2002 - 2003	2003 - 2004
Number of IT engineering graduates	42,138	45,994
Number of math and physics graduates	21,577	22,132
Number of non-IT engineering graduates capable of entering IT workforce	69,072	76,435
Number of graduates (other disciplines) capable of entering IT workforce	70,631	81,270
Total Fresh IT Labor Supply	203,418	225,831

Source: AURIGA Research

Quality

According to a report from the American Chamber of Commerce in Russia, Russian programmers are well suited for complex projects. "Indian programmers... do not have such wide experience with different technologies," said the report. "Their experience is typically limited to working in large software development factories." It is doubtful that Russia can compete with India in terms of volume of software and services export in the near future. But in terms of quality of resources, Russia already presents a strong competitor. It is generally accepted that the greatest asset of the Russian offshore programming industry is the high quality of its technical specialists.

The Soviet Union left behind a world-class system of science education. As a result, Russia now has up to 40 percent more scientists per capita than Germany, France or the United Kingdom, and 20 times more scientists per capita than India, according to Forrester Research. Russian computer specialists have won numerous gold medals at international programming competitions. At the 2004 ACM International Collegiate Programming Contest, the best-known event of its kind, the winning team was from the St. Petersburg Institute of Fine Mechanics and Optics. Teams from St. Petersburg State University won the ACM Programming Contest in 2000 and 2001, and in 2003 three Russian teams made it to the top 10 of the competition – Moscow State University received second place, the St. Petersburg Institute of Fine Mechanics and Optics took third, while Saratov State University took seventh.

This pool of scientific talent has attracted several Western companies to open wholly owned offshore development centers in Russia. Such companies include technology leaders like Intel, Sun, Motorola, Alcatel and Siemens. Intel alone employs over 800 Russian engineers and scientists, mostly based in Nizhny Novgorod and the former “closed” city of Sarov. According to Alexander Palladin, a spokesman for Intel in Russia, they solve difficult problems for the company's research and development wing. "In the eyes of Intel's management, Russian specialists are very highly regarded for their scientific knowledge," he said.

Russian Education System

Russia has one of the highest literacy rates in the world (98.7 percent), with 4.7 million students (600,000 in Moscow alone). Forty percent of university degrees are awarded in technology and science, and Russian universities produced more than 45,000 IT engineering graduates in the 2003/2004 academic years, including more than 22,000 math and physics graduates. Russian ESPs often recruit graduates from the leading technical universities. The programming skills of Russian university graduates are high, as recognized by their strong performance at world programming contests. The Association for Computing Machinery (ACM) conducts an annual International Collegiate Programming Contest among 1,300 universities in 65 countries. As previously mentioned, between 2000 and 2005, Russian universities have won numerous world championship titles, as well as many gold, silver and bronze medals.

The Russian education system places strong emphasis on mathematics and science, resulting in a large number of science and engineering graduates. An emphasis on math forms a strong foundation, helping Russian graduates to deal with new problem domains and technically challenging tasks. Mastery in quantitative disciplines coupled with English proficiency has resulted in a skill set that has enabled the country to take advantage of the current international demand for IT.

Practically, every Russian programmer holds at least a master's degree in computer science, applied mathematics, mathematics, electrical engineering or physics. According to consulting and research group Market-Visio/EDC, 77.4% of Russian software companies employ PhDs, while in 45.8% of those companies PhDs make up 10% or more of their staff. In the United States, for comparison, 86% of software professionals hold a bachelor's or associate degree or no degree at all.

The number of students in the higher education system keeps rising. In 2002 there were 5.4 million students – twice as many as in 1995 – and the trend retains its pace. The tradition of a strong educational focus toward the technical sciences continues and, as mentioned earlier, over 40% of students are pursuing engineering or technical degrees. Computer Science is attracting more and more students because of a strong demand and the abundance of well-paid jobs.

According to the oldest Russian software outsourcing company AURIGA's annual Russian Labor Pool Research in 2003-2004 the total fresh IT labor supply from the Russian universities exceeded 225,000 people. "That's up 11.2 % from the 2002-2003 academic year, which vividly demonstrates the Russian IT workforce growth trend", comments Alexis Sukharev, AURIGA President.

Vertical Domain Expertise

Russian ESPs repeatedly confirmed their ability to deliver mission critical applications in multiple verticals.

Financial Sector

A strong background of Russian developers in mission critical real-time systems, math modeling, and scientific and military applications is well recognized. There is a much less known fact that from the days of the former Soviet Union in the 1980s, waves of Russian programmers émigrés in the US have entrenched themselves in the US financial services industry. Visit an IT department of any major New York financial services companies – and you find a significant number of Russian-speaking staff doing either quantitative analysis, complex algorithm modeling, or source code development.

With the fall of the Soviet Union and the establishment of a free market economy over the last 15 years, there's been some flow of expatriate professionals from the US and Europe who successfully transferred back to Russia a great amount of financial sector expertise. Some expatriates with critical domain knowledge and experience took leading positions in IT outsourcing firms providing services for the US and European clients. In addition, the recent economic boom in Russia has attracted major financial institutions around the globe (Citigroup among others), to establish local Russian presence.

At the same time, leading Russian outsourcing vendors have been heavily investing into knowledge transfer and business domain skills across organizations. Among such vendors are EPAM Systems (www.epam.com), the largest outsourcing provider in Eastern Europe with clients including such financial heavyweights as the London Stock Exchange and Reuters. LUXOFT (www.luxoft.com), the largest Russian outsourcing vendor, has Deutsche Bank among its clients. Another example is St. Petersburg based Reksoft (www.reksoft.com), which manages an offshore center for developing mission-critical trading systems for a leading European banking institution. Moscow based Vested Development Inc. (VDI, www.vdiweb.com) is another mature provider with accomplished track record in the financial sector. Recently, VDI has delivered high-performance order management system for Europe's biggest financial and investment services provider.

When considering outsourcing financial applications development to Russia, special attention should be paid to ESPs with exclusive financial industry specialization. These vendors by their nature have deeper domain knowledge and, usually, better value proposition for the client. Among such companies is ITCI (www.itci.com), a top tier vendor with 5 offices in the US and Russia, dedicated focus on the financial industry domain and a roster of Fortune 500 financial clients including the world's largest bank, global financial companies and a major rating agency. Another example is St. Petersburg based DataArt (www.dataart.com), specializing in the development of advanced custom-tailored solutions for the investment management industry.

Concluding, we can confidently say that mature vendors, recent government support efforts, solid educational system and a vast talent pool make Russia an attractive and logical destination of choice for IT outsourcing in the financial industry.

Please see case studies in the Chapter "Success Stories."

High Tech R&D/ Software Technology Industry

The high tech world has long been aware of the Russian educational system (with its strong emphasis on fundamental science such as mathematics and physics) and capability of producing a large number of science and engineering graduates with advanced (MS and PhD) degrees. Since the early 90's large American corporations such as Sun Microsystems, Intel, Motorola and others have leveraged Russian talent in their wholly owned R&D centers ("captive centers") in Moscow, St Petersburg, Novosibirsk, Nizhny Novgorod and other places.

According to a recent Forrester Research survey, quite a significant percentage of outsourcing projects performed by Russian ESPs came from technology vendors and this fact is backed by dozens of success stories. Several leading outsourcing vendors have been investing in processes and secure infrastructure in order to attract the international clientele for R&D outsourcing in Russia. These vendors made offshore R&D centers their core competency by developing approaches and methodologies in taking technology research and development functions offshore.

One of the leading vendors in this area, Mirantis (www.mirantis.com), extends its clients' core R&D capabilities by creating "instant-on" state-of-the-art Technology Development Centers (TDC) that seamlessly integrate with the client's existing development teams. The Build-Operate-Transfer (BOT) model provides a systematic process that insures a smooth transition from the managed TDC to a wholly owned company offshore operation. A leading provider of the BOT model, Mirantis implements BOT programs for Fortune 1000 companies and ISVs.

Benefits of moving technology R&D offshore to Russia are not limited to low cost/high effective development. For example, M-Tech, a US hospitality industry software vendor, gained strong competitive advantage and raised margins as the result of product reengineering performed by Aplana Software (www.aplana.com); this project became Microsoft Award 2004 Winner in nominations "Customer Win of The Year" and "Customer Experience of the Year."

Another example is re-engineering of Datawatch's product, implemented by Vested Development, Inc (www.vdiweb.com): the product won CMP Media 2001 RealWare Award and Datawatch|ES was named the Best Report/Output Management Application of the Year.

EPAM (www.epam.com) applies its broad software industry expertise in product engineering engagements for some of the biggest software product companies in the world such as Microsoft, SAP, and Hyperion.

Another success story is Rescue Ware, a highly science intensive legacy transformation tool fully developed by Lanit-Tercom from St Petersburg (www.lanit-tercom.com) for US based Relativity Technology. Rescue Ware was nominated as "The Best Product" in its category by Gartner in 2001-2002 and eventually acquired by IBM to be integrated into its product line.

Please see case studies in the Chapter "Success Stories".

Telecom Industry

Most of current initiatives in the telecom industry face continuous pressure for cutting costs. And Russia has built a solid track record, enabling and supporting systems for telecom operators, software for equipment manufacturers, as well as applications for end users. Embedded in leading telecommunication products, Russian software solutions are used all over the globe. When you make a phone call, software developed in Moscow might run at the background. Telecom giants as Alcatel, Motorola and Siemens have their own development centers in Russia.

Over a decade of international telecom experience in Russia has produced impressive results: competent project management coupled with design and development expertise for diverse solutions and applications. Numerous Russian offshore vendors provide a broad competence and skills sets for development of systems and applications for wired and wireless communications, network testing and management, BSS/OSS, billing, value-added services delivery, and legacy migration and localization.

Artezio (www.artezio.com) is focused on developing components of operations support systems, billing systems, maintaining legacy telecommunications software and making business intelligence tools for clients such as Vodafone Group. EPAM (www.epam.com) provides a versatile service offering for clients both in wireless and wire line Telecom sectors: British Telecom, Verizon Communications, Vimpelcom, T-Mobile, Vodafone, Pannon, etc.

Novosibirks' Fortess (www.fortess.com) specializes in software development for the telecom industry especially in the fields of system programming and mobile development and works for small and medium businesses in the US, Japan and Europe. MERA Networks, Nizhny Novgorod (www.meranetworks.com), provides a complete range of software engineering services to the world's leading IT and telecom equipment vendors, among them Cisco Systems, Nortel, Siemens Mobile, and more.

Saint Petersburg-based Reksoft (www.reksoft.com) has more than 14 years of experience delivering products and solutions to European and Russian telecom operators and equipment manufacturers. Reksoft is a development backbone for Ascom QVoice product family, which dominates the European GSM QoS market. Reksoft also serves the mobile and fixed line operators market, having VAS SDP core components in its portfolio, including an alerting platform for Swisscom Mobile Portal and value-added services billing for BeeOnLine (Vimpelcom, NYSE: VIP).

StarSoft Development Labs (www.starsoftlabs.com), the oldest and the largest software outsourcing company in St. Petersburg, manages a dedicated offshore development center for T-Mobile, one of the leading international mobile communications carriers. Another example is SPIRIT (www.spiritdsp.com), which since its inception in 1992 has become a global brand in top quality software products for telephony, VoIP, hands-free conferencing, speech processing, audio, and other applications in the field of digital signal processing.

Vested Development Inc. (www.vdiweb.com) provides reengineering and integration solutions for business critical functions across the telecom industry. A recent engagement included an enterprise-scale legacy reengineering project for Russia's largest independent telecommunications and internet services provider.

Please see case studies in the Chapter "Success Stories".

Unique Differentiators

Russia is the only offshore destination that can offer the better of two worlds: the scale required by many clients and cultural/geographical proximity of a European country. European and US clients can achieve nearshore productivity with Russian ESPs, which directly translates into ROI increase from outsourcing efforts.

In simple language, there are distinctive advantages of outsourcing to Russia vs. Asia or the Pacific Rim:

- Russian business hours are in better sync with the US and Europe.
- Russia is physically closer to the US than Asia or Pacific Rim making more face-to-face interaction possible across management and development teams (Moscow is only 3 hours away from London and 40% closer to New York than Bombay, India for example).
- Russia has closer cultural affinity with both the European and American worlds.

That is why development and maintenance of global corporate applications for Fortune 1000 companies is another significant area of success.

The customer track of Russian vendors in this venue is quite convincing. One example is EPAM's (www.epam.com) delivery of global sales support system to Colgate-Palmolive offices in over 30 countries. Another example is LUXOFT's (www.luxoft.com) cooperation with Boeing and Deutsche Bank in the applications development area, and with IBM Corp in the area of mainframe programming systems.

Such projects also involve long-term maintenance tasks that require regular application release updates and ongoing support in multiple locations. That's where Russia's geographical proximity and cultural affinity come into play. The examples include:

- Aplana's (www.aplana.com) multiyear cooperation with GE Medical Systems headquartered in France – the project nature is sales support applications maintenance in over 80 GEMS offices in Europe and Asia.
- ITCI's (www.itci.com) dedicated first level IT support center for UK operations of the world's largest bank. This example yet one more time proves the quality of people, since first level support is rarely outsourced offshore due to extensive domain knowledge requirements and heavy interaction with business users.
- StarSoft Development Labs (St. Petersburg) multiyear partnership with CSC (Computer Sciences Corporation) where end users of solutions developed by StarSoft include Danish Ministry of Labor, Danish Ministry of Tax and Customs, Danish State Enterprise Registry, Government of Cyprus, and H:S, Denmark's largest hospital system.

Please see case studies examples in the Chapter "Success Stories".

Government Policies

The fast growing industry has recently caught the attention of the state. Government support for IT has increased dramatically in the last year. In 2004, an intensive dialogue between IT Associations and the Government resulted in adoption of the National Concept of "IT Market development in Russia" (November 18, 2004), which was characterized with the following key elements:

- Deregulation of the IT export
- Support of international marketing efforts of Russian IT companies
- Support of QA certification efforts of Russian IT companies
- Domestic market stimulation
- Support of IT-parks development initiative
- Tax holidays and favorable tax laws development for the industry
- State investment in industry infrastructure
- Creation of a State owned Investment Fund for IT businesses
- Enhancements of IPR Protection system in IT.

The Concept of the Development of the IT Market in the Russian Federation

The Government of the Russian Federation approved "The Concept of the Development of the IT Market in the Russian Federation." proposed by the Ministry of Information Technologies and Communications.

For the last four years the growth of the Russian IT market has been faster than the growth of the Russian economy as a whole and showed a 20-25 % increase p.a. Russia however, still lags behind Western countries with respect to development and use of information technology.

The Concept of the industry's development contains proposals on modification of the legislative base in the field of IT, mainly concerning customs and tax regulations. The measures suggested by the Ministry could lead to a growth in the IT market of 30 per cent annually between 2004 and 2010. If these measures are introduced, the IT market in Russia may be worth as much as $40 billion in 2010 (according to the Ministry). At present, the Russian information technology market is worth approximately $7 billion.

The IT and Communications Ministry will soon launch techno parks in Dubna, St. Petersburg and Novosibirsk, including tax breaks and an up-to-date communications infrastructure. These ideas are not new. A decade ago, India used similar policies to stimulate the IT industry in Bangalore. Today Bangalore is the center of India's offshore programming industry; the city is often called the "Silicon Valley of India." Russian ESPs are supporting this initiative, and LUXOFT has already established its development center in Dubna, hiring its first fifty employees. Other companies are developing techno parks in St Petersburg, Novosibirsk and Nizhniy Novgorod, with more to come.

The Russian programming community has formed RUSSOFT to promote the nation's IT industry abroad. RUSSOFT (www.russoft.org) is the result of a merger between "Fort Ross" Consortium and National Software Development Association. Thus, it became the predominant association of Russian software companies, following a path blazed by NASSCOM in the 1990s. Its role in the West is to promote Russian IT firms, hold training events and lobby for improvements in the government policy".

Electronic Russia 2002 – 2010

The Government of the Russian Federation has approved the federal program "Electronic Russia" 2002 - 2010 (Resolution of the Government of the Russian Federation No. 65 of 28 January 2002). The purpose of the Program is identified as a broad implementation of information and communication technologies, free distribution, transmission and receipt of information, and training of IT specialists and users. Program objectives include formation of efficient IT legislation compliant with international laws, efficient and broad use of IT in social and economic spheres, IT-based training and creation of conditions for development of e-commerce.

An Interdepartmental Committee has been created for the implementation of the Program.

Economy

Economy - Overview:	Russia ended 2004 with its sixth straight year of growth, averaging 6.5% annually since the financial crisis of 1998. Although high oil prices and a relatively cheap ruble are important drivers of this economic rebound, since 2000 investment and consumer-driven demand have played a noticeably increasing role. Real fixed capital investments have averaged gains greater than 10% over the last four years and real personal incomes have averaged increases over 12%. Russia has also improved its international financial position since the 1998 financial crisis, with its foreign debt declining from 90% of GDP to around 28%. Strong oil export earnings have allowed Russia to increase its foreign reserves from only $12 billion to some $80 billion. These achievements, along with a renewed government effort to advance structural reforms, have raised business and investor confidence in Russia's economic prospects. Nevertheless, some issues are yet to be resolved. Oil, natural gas, metals, and timber account for more than 80% of exports, leaving the country vulnerable to swings in world prices. Therefore, the growing IT sector, especially IT services exports play an ever-increasing role in the Russian economy future. In addition, Russia's manufacturing base is dilapidated and must be replaced or modernized for the country to achieve broad-based economic growth.
GDP:	Purchasing power parity - $1.282 trillion (2003 est.)
GDP - real growth rate:	7.3% (2003 est.)
GDP - per capita:	Purchasing power parity - $8,900 (2003 est.)
GDP - composition by sector:	*Agriculture:* 5.2% *Industry:* 35.1% *Services:* 59.8% (2003 est.)
Investment (gross fixed):	18.2% of GDP (2003)
Population below poverty line:	25% (January 2003 est.)
Household income or consumption by percentage share:	*Lowest 10%:* 5.9% *Highest 10%:* 47% (2001)
Distribution of family income - Gini index:	39.9 (2001)
Inflation rate (consumer prices):	13.7% (2003 est.)
Labor force:	71.68 million (2003 est.)
Labor force - by occupation:	*Agriculture* 12.3%, industry 22.7%, services 65% (2002 est.)

Unemployment rate:	8.5% plus considerable underemployment (2003 est.)
Budget:	*Revenues:* $83.99 billion *Expenditures:* $73.75 billion, including capital expenditures of NA (2003)
Public debt:	34.1% of GDP (2003)
Agriculture - products:	Grain, sugar beets, sunflower seed, vegetables, fruit; beef, milk
Industries:	Complete range of mining and extractive industries producing coal, oil, gas, chemicals, and metals; all forms of machine building from rolling mills to high-performance aircraft and space vehicles; shipbuilding; road and rail transportation equipment; communications equipment; agricultural machinery, tractors, and construction equipment; electric power generating and transmitting equipment; medical and scientific instruments; consumer durables, textiles, foodstuffs, handicrafts
Industrial production growth rate:	7% (2003 est.)
Electricity - production:	915 billion kWh (2003)
Electricity - consumption:	773 billion kWh (2001)
Electricity - exports:	21.16 billion kWh (2001)
Electricity - imports:	7 billion kWh (2001)
Oil - production:	7.286 million bbl/day (2001 est.)
Oil - consumption:	2.595 million bbl/day (2001 est.)
Oil - exports:	NA (2001)
Oil - imports:	NA (2001)
Oil - proved reserves:	51.22 billion bbl (1 January 2002)
Natural gas - production:	580.8 billion cu m (2001 est.)
Natural gas - consumption:	408.1 billion cu m (2001 est.)
Natural gas - exports:	205.4 billion cu m (2001 est.)
Natural gas - imports:	32.7 billion cu m (2001 est.)
Natural gas - proved Reserves:	47.86 trillion cu m (1 January 2002)
Current account balance:	$35.91 billion (2003)
Exports:	$134.4 billion (2003 est.)
Exports - commodities:	Petroleum and petroleum products, natural gas, wood and wood products, metals, chemicals, and a wide variety of civilian and military manufacturers

Exports - partners:	Germany 7.8%, Netherlands 6.5%, Italy 6.3%, China 6.2%, Belarus 5.7%, Ukraine 5.7%, US 4.6%, Switzerland 4.4% (2003)
Imports:	$74.8 billion (2003 est.)
Imports - commodities:	Machinery and equipment, consumer goods, medicines, meat, sugar, semi finished metal products
Imports - partners:	Germany 14%, Belarus 8.6%, Ukraine 7.7%, China 5.8%, US 5.2%, Kazakhstan 4.7%, Italy 4.2%, France 4.1% (2003)
Reserves of foreign exchange & gold:	$76.94 billion (2003)
Debt - external:	$175.9 billion (2003)
Economic aid - recipient:	In FY01 from US, $979 million (including $750 million in non-proliferation subsidies); in 2001 from EU, $200 million (2000 est.)
Currency:	Russian ruble (RUR)
Currency code:	RUR
Exchange rates:	Russian rubles per US dollar - 30.692 (2003), 31.3485 (2002), 29.1685 (2001), 28.1292 (2000), 24.6199 (1999) *note:* the post-1 January 1998 ruble is equal to 1,000 of the pre -1 January 1998 ruble
Fiscal year:	Calendar year

Infrastructure

While the Russian infrastructure is relatively inferior to the one in the United States and Western Europe, it is comparable with if not better then such offshore destinations as India, China and the Philippines. The Economist Intelligence Unit's (EIU's) analysis (**on a scale of 1 to 100, with the lower the score the better**) has the U.S. infrastructure rated 16 and the Russian infrastructure rated 59. As a matter of fact, Russian infrastructure was rated higher than in other offshore destinations. Other offshore countries rated include India (75), China (66) and the Philippines (66). In all of these countries, the infrastructures of the major commercial centers exceed that of other parts of the country. For example, most Russian ESPs are based in Moscow and St. Petersburg (where the infrastructure is much better than in most other Russian cities). Russian ESP offices are equipped with modern telecom equipment: IP phones, high-speed Internet, fiber-optic cables, and powerful personal computers and servers that provide fast, reliable connections with Western clients. The telecom growth in Russia is seeing a tremendous boom, while mobile phone subscriber base-jumped from 36.5 million in 2003 to 60 million in September 2004.

Communications

Telephones - main lines in use:	35.5 million (2002)
Telephones - mobile cellular:	72 million (2004)
Telephone system:	*General assessment:* the telephone system underwent significant changes in the 1990s; there are more than 1,000 companies licensed to offer communication services; access to digital lines has improved, particularly in urban centers; Internet and e-mail services are improving; Russia has made progress toward building the telecommunications infrastructure necessary for a market economy; however, a large demand for main line service remains unsatisfied *Domestic:* cross-country digital trunk lines run from Saint Petersburg to Khabarovsk, and from Moscow to Novorossiysk; the telephone systems in 60 regional capitals have modern digital infrastructures; cellular services, both analog and digital, are available in many areas; in rural areas, the telephone services are still outdated, inadequate, and low density *International:* country code - 7; Russia is connected internationally by three undersea fiber-optic cables; digital switches in several cities provide more than 50,000 lines for international calls; satellite earth stations provide access to Intelsat, Intersputnik, Eutelsat, Inmarsat, and Orbita systems
Internet country code:	ru; Russia also has responsibility for a legacy domain ".su" that was allocated to the Soviet Union, and whose legal status and ownership are contested by the Russian Government, ICANN, and several Russian commercial entities
Internet hosts:	560,874 (2004)

Internet Service Providers (ISPs):	300 (June 2000)
Internet users:	11 million (2004)

Competitive Costs/ROI

Some analysts think that in the long-term Russia cannot compete with India or China directly on cost basis. However, most of them do agree that in the niche of high-end solutions, it could become a world leader. In addition, most analysts agree that comparison on pure hourly rates is a rather meaningless exercise without regards to effectiveness and productivity. Let's look at these issues more closely in order to portray all variables affecting ROI (return on investment) from offshore outsourcing.

Costs/Rates

Below is a table with nominal costs and hourly rates for various offshore destinations, from which the reader can see that Russia is on par with India in regards to programming costs.

ADM Costs/Rates per country (source: META Group, 2004)

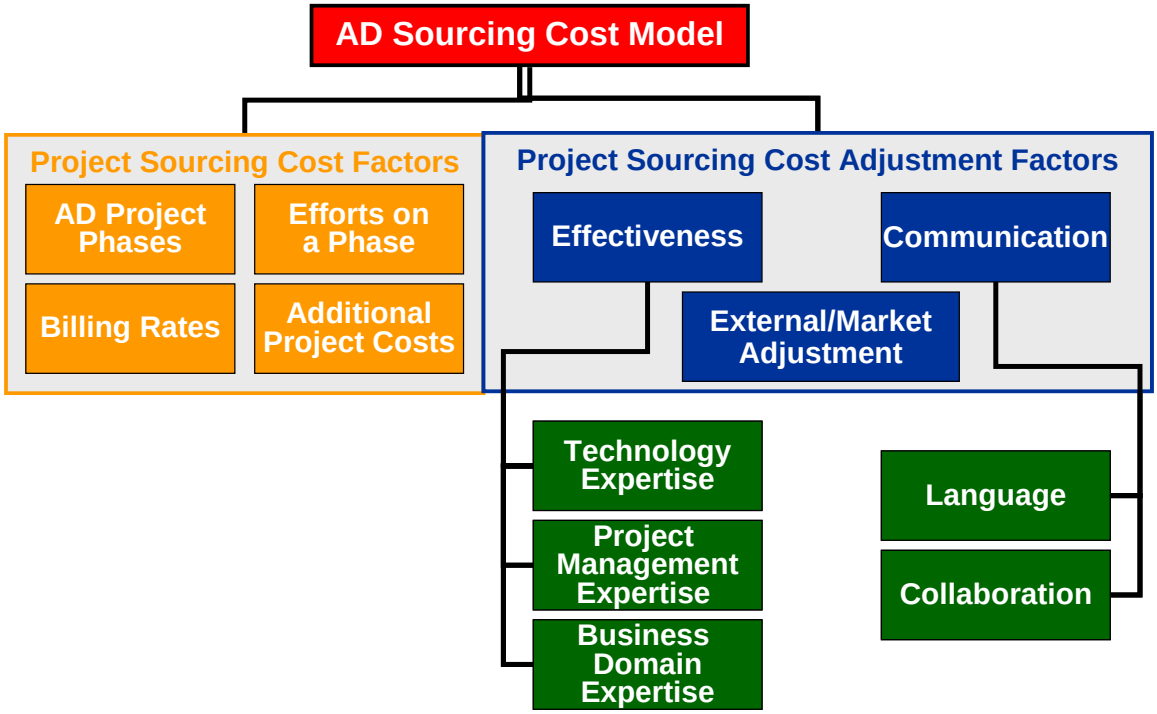
Country	Ranges for Programmer Annual Salary		Ranges for Hourly Rates (ADM)	
Russia	**$5,000**	**$9,000**	**$20**	**$40**
Vietnam	**$3,000**	**$6,000**	**$15**	**$25**
Ireland	**$23,000**	**$36,000**	**$40**	**$80**
Canada	**$20,000**	**$40,000**	**$40**	**$80**
India	**$5,000**	**$9,000**	**$20**	**$40**
Mexico	**$7,000**	**$12,000**	**$20**	**$35**
China	**$3,000**	**$7,000**	**$15**	**$25**
Philippines	**$5,000**	**$9,000**	**$20**	**$40**
Singapore	**$9,000**	**$20,000**	**$30**	**$60**

Productivity/Effectiveness

The truth is that ultimate cost of the outsourcing engagement is not directly proportional to offshore salaries (billing rates). The real measuring parameter is productivity achieved for a certain cost factor.

According to Gartner Inc., **Effectiveness** and **Communication** are major **Project Sourcing Cost Adjustment Factors.** Effectiveness is a function of Technology Expertise, Project Management Expertise and Business Domain Expertise. Communication is a function of Language and Collaboration. Please see the diagram below, which illustrates all factors in offshore outsourcing cost model.

Application Development Sourcing Model Factors



Source: Gartner Inc. "Economics of AD Outsourcing: Can Indiana Compete with India?", Joseph Feiman, October 2004.

According to the above diagram, Cost Adjustment Factors can play a critical role in the ROI of an outsourcing engagement. In other words, a rate per hour in Russia carries a different meaning than that same rate per hour in other offshore destinations. Ultimately, productivity is the key for evaluating vendor competitiveness. Objective productivity factors unique to Russia are addressed in the **Unique Differentiators** section earlier in the chapter titled **Strengths**.

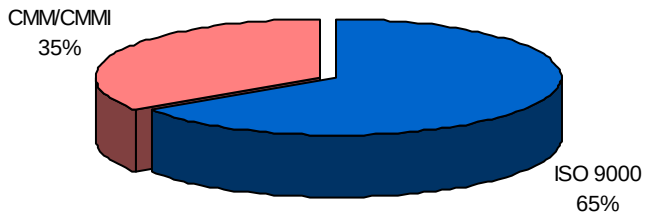
Certifications

Russian software developers have been known for years for the high quality and security of the products and services they provide. According to the research carried out by CNews Analytics and Fort-Ross, 43% of Russian software engineers have some quality certification. It should be emphasized that the level of certification "penetration" in Russia is one of the highest in Europe.

Software development process assessment is one of the top priorities for the development of Russian companies, and one of the key trends in the Russian software outsourcing industry.

ISO 9000:2000 Certification is the absolute leader among Russian software companies. This type of certification came to Russia earlier than CMM/CMMI, and the certification process is cheaper. The level of penetration of ISO 9000 in 2003 stood at 65%, while CMM/CMMI stood at only 35%.

Certifications in Russian Offshore Outsourcing Industry



Source: CNews Analytics, Fort-Ross, 2004.

The years 2000-2003 have been marked by implementation of modern quality assurance in the leading companies where Russia took a leading position within the entire European field of CMMI certification (5 companies have been certified to SEI-CMMI Level 5 and Level 4).

The number of companies certified to ISO standards increased by more than a quarter. At the same time, the number of companies assessed in compliance with the international standards SEI CMM or SEI CMMI increased by as mush as 80%. An increasing number of companies plan to be assessed to receive a SEI CMM rating.

IP Protection

Introduction

Until recently, Russia was perceived as a place without effective legal protection for intellectual property rights. Even now, after establishment of a free market economy, some still continue to believe in this stereotype from the Soviet past. In reality, for the last 15 years Russia has been an integral part of the technology and IP portfolio for such technology giants as Intel, Motorola, and Sun Microsystems, just to name a few. International IP transactions involving technology acquisitions routinely take place in Russia. Leading outsourcing vendors in collaborations with numerous major corporate clients and with the help of leading international law firms (e.g. Baker & McKenzie, Gowlings, Deloitte, etc.) have developed practical proof that the intellectual property (IP) laws currently on the books in Russia are compliant with the International IP intellectual property rights.

Russia has long been a party to a number of international treaties governing protection of intellectual property. In accordance with the world standards Russia has developed a legislation on principle issues of intellectual property. Furthermore, the court practice of the recent years (both in criminal and civil law courts) shows an increasing number of cases heard in respect of intellectual property matters. Analyzing the recent court cases, we may conclude that where an aggrieved party is prepared to demonstrate determination in pursuing legal redress, Russian laws offer efficient tools to cure infringement. This document section delivers brief legislation overview along with recommendations for practical IP protection in Russia. The objective of this section is to create in the audience a comfort level in regards to IP protection in Russia.

Underlying Russian Legislation

International Treaties

In the area of software protection the relevant international treaties are the Berne Convention for Treatment of Literary and Artistic Works 1886 (as amended, 1971) (a.k.a the "Berne Convention 1971") (Russia acceded in 1994) and the Universal Copyright Convention 1952 (Russia acceded in 1973, as the successor to the USSR) (as amended in 1971 and acceded by Russia in 1994) (a.k.a the "Universal Copyright Convention 1971"). These two laid down the principle of national treatment, which requires member states to offer, without any additional formalities, legal protection of copyright to non-nationals equally with its nationals.

Domestic Russian Legislation

In line with the world practice Russian legislators have adopted an approach protecting the software as literary works. Essentially, copyright offers protection against unlawful copying of computer programs. Unlike such jurisdictions as in the US or UK, computer programs in Russia are expressly not patentable (Article 4 of the Patent Law of 23 September 1992 No. 3517-I).

The main legislative acts in the area of software protection are Law of the Russian Federation "On Copyright and Neighboring Rights" No. 5351-1 of 9 July 1993 (hereinafter – "Copyright Law") and Law of the Russian Federation "On Legal Protection of Computer Programs and Databases" No. 3523-1 of 23 September 1992 (hereinafter – "Computer Programs Law"). These two acts accumulated the provisions of the Berne Convention 1971 and the Universal Copyright Convention 1971, and also have due regard for provisions of the EEC Directive 91/250/EEC of 14 May 1991.

Practical Measures to Protect IP

Vendor Due-Diligence

The best practical approach for IP protection (regardless of offshore jurisdiction) in offshore outsourcing is to perform a vendor due-diligence prior to any engagement. If the vendor can demonstrate a long-term track record of working with Western clientele together with security infrastructure in place, this automatically should create a comfort level for potential clients. Russian ESPs that work with Western clients tend to have world class security procedures and usually pay special attention to security infrastructure requirements.

IT Contracts and Non-Disclosure Agreements/Clauses

Contractual documents must be carefully drafted as they define the limits of use and protection of computer programs. Contracts should contain specific obligations in respect to intellectual property rights compliance, define with precision the scope of the rights, the possible ways to use the software granted as well as the term period of the contract and provide for additional remedies in case of infringement.

Software in Course of Employment

Under the Russian law the employer automatically acquires copyright in a computer program, created in the course of employment unless otherwise stipulated by the labor contract (Article 14(1) of the Copyright Law and Article 12(1) of the Computer Programs Law). However, in order to ensure that this right of the employer is efficiently implemented, it is advisable for an employment contract to expressly stipulate that any intellectual property rights vest with the employer and that he may duly register them in his name. The employment contract should also contain a non-disclosure clause dissuading an employee from divulging information about the software and other sensitive data. It is advised that individual employees be issued written assignments for the development of certain computer programs, which in case of a dispute would prove that such software was in fact developed in the course of employment.

Technical and Administrative Measures

Using specialized data and access protection software is a widely used tool helping to avoid any unlawful access. It is critical to exclude any access to the protected computer program by unauthorized persons. This can be achieved by internal regulations specified to the personnel having access to the software, and by utilizing the relevant access and data protection software. The majority of Russian ESPs have such regulations in place, in addition to strict infrastructure security arrangements and ongoing monitoring of employee activity.

Remedies for Infringement

In case of infringement the proprietor may rely on a number of legislative provisions in the area of civil law, criminal law, and administrative law. As current practice shows, the maximum effect may be achieved if the proprietor employs the remedies cumulatively, and that a favorable judgment in a civil law case is easier granted where the proprietor has been successful in initiating criminal prosecution. It is also highly advisable to engage assistance from the law enforcement bodies, since in many cases it will be problematic to attain evidence of the infringement without their participation. The right of the proprietor to turn to the law enforcement bodies is expressly provided for by Article 49(2) of the Copyright Law and Article 18 of the Computer Programs Law.

Russian law enforcement bodies are given powers to stop infringement immediately and to ensure that unlawful materials are arrested pending the court judgment (Article 50 of the Copyright Law).

Bottom line

The existing Russian legislation offers sufficient legal tools to ensure reliable protection of intellectual property rights.

There are evident signs that proprietors are moving towards awareness of their rights, which will undoubtedly push the protection of intellectual property to an even higher level. A good confirmation to that is the apparent increase in a number of cases heard by Russian courts recently over intellectual property matters.

These facts coupled together with the Russian ESPs' attention to practical IP protection should put Russia in a well-deserved comfort zone for offshore outsourcing development.

Success Stories

Aviation/Aerospace

Company Name	**LUXOFT**
URL	www.luxoft.com
Industry	Aviation / Aerospace
Client Name	Large aviation / aerospace manufacturer
Technology	• Java (J2EE) employing the EAD4J enterprise application development framework • DB2 with DLFM (Datalink File Manager) • IBM WebSphere • OS – AIX • Web Services
Scope Summary	Application Development, Reengineering & Maintenance
Task Summary	A large aviation industry manufacturer wanted its LUXOFT Offshore Dedicated Center (ODC) to create a new automated engineering data retrieval system to replace the out-dated system being used to store over ten million engineering schematics, technical drawings, and other documents. The new system needed to permit multiple simultaneous users to access the database and search, view, and print documents via a standard web browser from any location. A web-based interface was required to accommodate both internal employees located locally and internationally and system users employed by partner companies and sub-contractors. Key requirements included high performance, capacity and security. The new system needed to recognize a wide range of user profiles with different permission sets, seamlessly work with other systems via web services and integrate with company-wide security systems.
Business Objective	The primary business objective behind the new automated engineering data retrieval system was to reduce operational costs, improve scalability, productivity, manageability and security, while effectively delivering over two terabytes of business critical information to over 150,000 worldwide users.
Solution	The system LUXOFT created has at its core an architecture leveraging a DB2 relational database with datalinks technology. All drawings are stored in TIFF format and PDF files in a file system running under the Datalink File Manager. System files are accessed through the DB2 interface (SQL) with IBM WebSphere as application server . System printing functionality is supported by distributed Batch Print Centers running as independent servers in different geographic locations. The new automated engineering data retrieval system relies on Web Services as the primary technology for interfacing with other enterprise applications.
Result	LUXOFT delivered the system to the client on time, within budget, and meeting or exceeding requirements. The new system reduces operational costs, and via its distributed, clustered architecture improves scalability, portability, productivity, manageability, and security. Available 24x7 from anywhere it effectively serves the needs of over 150,000 users worldwide and handles over two terabytes of data. Currently, a joint LUXOFT and client team maintains the system around the clock. LUXOFT ensures that system functions seamlessly while regularly developing enhancements that respond to developing business needs.

Consumer Industry

Company Name	**EPAM Systems**
URL	www.epam.com
Industry	Consumer Goods and Services
Client Name	Colgate-Palmolive Company, (www.colgate.com)
Technology	Sybase PowerBuilder 5.0; Sybase SQL Anywhere 5.0; Oracle 7.3; C/C++; CA Erwin; IBM MQ Series; Dial-up networking
Scope Summary	Application design and development, SAP R/3 integration
Task Summary	To architect, design and develop a sophisticated sales-support system capable of disseminating data to multiple users and running a variety of databases on multiple hardware platforms. Backend integration services.
Business Objective	To compete and win in today's global economy, corporations have to move data swiftly and seamlessly across broad networks. To help sales representatives manage a large portfolio of customers, products, and promotional material, Colgate wanted an application that provided on-demand real-time information to every sales person in distributed office environments in 30 countries.
Solution	The Global Sales Support System is a proprietary mobile application, code named LISA2. The application not only accomplished the real-time information requirement, but also allowed to achieve considerable cost reductions through replacing the global paper mailing of tens of thousands of product updates and reports each month. The system provides sales people with enterprise, customer, product, availability, promotional, order status, and reporting information. With a laptop computer, a sales person is able to collaborate with internal contacts, manage customer calls, manage and track sales goals, tap a product encyclopedia (including complex promotional pricing), enter and monitor orders, and analyze sales data and enter and process orders on-line with no processing delays.
Result	Colgate-Palmolive has seen its sales force become more efficient and effective, especially in dealing with multiple languages, currencies, and promotions. The sales force shows higher morale and greater productivity as a result of improved accuracy and the variety of tools and options that enhance their product knowledge and improve their productivity. More than $4 billion in sales flow through the system each year, making the LISA2 one of the most mission critical systems at Colgate. *"Having a flexible system in place globally has allowed us to be more responsive to new business demands. More importantly, with competitive pricing pressures increasing due to the formation of the European Community the bottom line must be followed more closely than ever before. We can confidently say that we are running our sales organization as productively as possible."* - Stefan Ziehrer, Head of Colgate Sales Support Competence Center, Germany

Education Industry

Company Name	**PHYSICON (OpenTeach Group)**
URL	www.openteach.com www.physicon.ru
Industry	e-Learning
Client Name	Major educational publishing company, USA
Technology	Java, EJB, Servlets, Web Services (JAX-RPC, SAAJ), Struts, XML/XSL, Oracle, Macromedia Flash.
Scope Summary	e-Learning management system & electronic media content development
Task Summary	To develop an e-Learning system of national scale supporting universities and colleges learning process based on Publisher's textbooks sold on USA markets, providing its users with rich innovative e-Learning experience along with huge amounts of constantly added new interactive learning objects. Thus the system should be easily accessible via Internet from any campus or home and function under any hardware & software platform common in the USA market.
Business Objective	To boost Publisher's higher education textbooks sales by providing all students and teachers using these books with free access to the online e-Learning system to be developed. Additional value for all types of system potential users should be obvious and competitive through innovation if compared to other e-Learning systems on the market provided by other publishers.
Solution	The customer has chosen PHYSICON (OpenTeach Group) as system's developer due to a long and successful history of cooperation with most of major USA educational publishing companies, showing deep expertise both in e-Learning systems and content development. To achieve accessibility goals the system was designed and implemented as thin client web application using Java and Flash plug-in for interactive objects, such as problems and simulations, while server side was a cluster of Sun SPARC stations running BEA WebLogic application server and Oracle database. For this project, PHYSICON also formed a special dedicated team of about 50 specialists combining both programming skills and profound scientific knowledge (very rare combination in USA, while common among people with technical higher education in Russia) for the creation of interactive e-Learning content based on specific Publisher's textbooks. PHYSICON's content creation team developed about 500 000 learning objects, mostly algorithmic problems of more than 50 interactive problem types, which made the system possess the hugest test bank on the market. The system provided its users with all kinds of services for both online and conventional offline learning process, including algorithmic problems-powered quiz generating and printing service and intellectual parser tools for automated transformation of test questions stored in some older format (like MS Word) into the system's internal test bank.
Result	The system fully met business requirements and client's needs. Since the system went online the textbook sales increased by 20-100 %, especially in Math and Statistics, the disciplines having the hugest amount of content in the system, which is an exceptionally good result for the mature USA publishing market. Currently the system is used in nearly 1000 educational institutions all over the USA, it has an average of about 20 000 users simultaneously working online. The system is constantly evolving, offering more and more high quality e-Learning content and services to its users.

Energy Industry

Company Name	**EPAM Systems**
URL	www.epam.com
Industry	Energy Services, Construction and Maintenance
Client Name	Halliburton Company (www.halliburton.com)
Technology and Tools	WinAPI, Sybase Power Builder 5.0 - 7.0, Sybase SQL Anywhere 5.x RDBMS, MS SQL 2000 RDBMS, MS SQL 2000 DTS, Fincad Developer 6, Reuter Terminal's DDE
Scope Summary	System development, enhancements development, SAP ERP integration
Task Summary	EPAM Systems was engaged to develop the Exposure Management System for the Treasury Department of Halliburton Company to manage the currency risk of their two major business units, Brown & Root and Halliburton Energy Services.
Business Objective	Being a global company with about 360 local offices and affiliate partners worldwide, the Halliburton Company deals with innumerable currency transactions daily. With faster than ever growth in global financial markets, Halliburton's legacy manual, and paper-based report systems did not provide the required up-to-date and reliable information to effectively optimize foreign currency transactions. Halliburton needed a system to manage foreign currency exchange risks and distribute the most recent financial data throughout their worldwide business network.
Solution	As a management application for receiving, processing, and sending multi-currency sales reports, the Exposure Management System functionally is divided into three main areas: - Dresser Exposure Management System Central (Dresser accounts) - Exposure Management System B&R (Brown and Root accounts) - Exposure Management System SAP (SAP accounts) Later on upgrades to the system were implemented. They incorporated many advanced features and seamless interfaces into Halliburton's SAP ERP Systems. This project was named: EMS SAP 2000.
Result	More effectively and at much greater speeds, the treasury staff at Halliburton uses the Exposure Management System to manage foreign exchange risk based on up-to-date financial facts provided by the system. The company benefits from full automation of report distribution between headquarters and local managers. Coverage is provided to more than 300 local affiliate partners that manage 177 local currency rates. Last but not least, the system significantly reduced losses by enhancing the reliability and accuracy of this critical business process. "*The EMS application benefits exceeded all expectations. It is a fast, reliable, easy-to-use system. Due to the successful delivery of EMS SAP 2000, Halliburton has contracted EPAM for the development of a Contract Management System. Halliburton projects are a testimonial to EPAM's ability to meet customer expectations*." - Steve Mathews, Halliburton Company Manager, Financial Risk Treasury Dept.

Finance Industry

Company Name	**Aplana Software**
URL	www.aplana.com
Industry	Finance
Client Name	**ICL,** Smart Card Group (former PTI) is an ICL/Fujitsu company supplying Cashless payment and multiplication solutions based on smart cards
Technology	Oracle, Sybase, MS SQL, C++, VB, COM, in-house developed APIs
Scope Summary	
Task Summary	Development of Card Acceptance Device Software (CAD) and Windows-based API as part of ICL's smart card based payment solution. The significant part of this project was the software development for peripheral points-of-service, such as POS and PIN Pads, ATMs, Credit Stations and others by use of C++ and in-house developed CAD–library (Windows based API developed with C++).
Business Objective	SmartCity - ICL's smart card based system - is a cashless payment solution for use in closed and semi-open environments like university campus, corporate offices, industrial towns, etc. It consists of Back Office - open, multi-platform, client-server application for card issuing, transaction processing, settlement, and database management, Card Acceptance Device (CAD) portable peripheral object-oriented applications, and multi-application development platform for creating add-on smart card based solutions. The project objective was to complement the existing SmartCity back office software with such vital components as peripheral device and telecommunications software. Another task was to perform the system functionality testing. It was also important to ensure the solution's compatibility with the Russian market requirements.
Solution	Development of a whole range of POS, ATM, ECR, fingerprint applications, develop telecoms component, provide interface with customer accounting and host systems, provide localization, documentation, testing and training.
Result	Millions of cards issued, over a hundred installations worldwide implemented together with the partners. Two-shift development model allowed reducing cost of the development and increasing speed-to-market.

Company Name	**DataArt**
URL	www.dataart.com
Industry	Finance
Client Name	Large multi-strategy Hedge Fund in New York
Technology	Microsoft .NET
Scope Summary	Application Development, Reengineering, Innovation & Maintenance
Task Summary	To develop Order Management System (OMS) for a major New York-based Hedge Fund - a front-end system that automates activities on a trading floor. The OMS would be a central system for its users – portfolio managers, traders and trader assistants, that provides them with all the tools needed to maintain the fund's long-term trading strategies. It also would be a major part of Straight-Through Processing (STP) workflow, providing back-office applications with reliable and accurate trading data.
Business Objective	The Order Management System should support the workflow for order creation, execution, allocation and booking to multiple downstream systems. Ultimately, it becomes the main productivity driver on the trading floor. It should support real-time multi-user collaboration and provide portfolio managers with a comprehensive tool for viewing and analyzing of complex structured portfolios.
Solution	Over the course of 12 months and using a highly iterative development process, DataArt developed an Order Management (OMS) system that fully supported the client requirements. The system is entirely. NET winforms-based, built on Microsoft's. NET platform. On the back end, the solution seamlessly integrates with various corporate systems, including Monis, Tradar, Portware and Sophis. The system allows a high degree of collaboration between traders. A real-time 'remoting' server enables all real-time data to be consistent.
Result	The OMS system was extensively tested by the client's IT department, integrated with the fund's IT systems and deployed to live operation in 2004. An entire trading floor relies on the system for accurate trade entry, execution, booking and allocation functionality for a variety of security types. Parts of the system, such as portfolio explorer, received praise from the fund's top management, proving to be a tool valuable for overall business transparency. The system's extensibility features are in high demand, as the client is continuously updating the package to support new security types and integrate the system with various third-party products.

Company Name	**IBA**
URL	www.iba-it-group.com
Industry	Finance
Client Name	Leading German bank that serves clients worldwide with special focus on Germany and Northern and Eastern Europe.
Technology	J2EE, Lotus, DB/2, WebSphere, OS/2
Scope Summary	Banking Application Migration and Enhancement
Task Summary	The project was designed to replace a legacy OS/2 banking application with a new multilayer browser-based solution. Intended for the credit department of our customer, this application captures and stores information about clients, loans, loan guaranties, and mortgages. It also generates more than 250 types of documents both for bank clients and internal use. The new system had to provide the same functionality as the legacy application. Another requirement was that legacy Himalaya-based set of tools and libraries be used for the implementation of Java server applications (J2EE).
Business Objective	The bank needed to achieve higher efficiency for its operations through the use of advanced information technologies. The customer intended to attain this goal with minimum development costs while maintaining high quality.
Solution	IBA implemented the project in close cooperation with the customer. The IBA responsibility was system analysis; application design; application construction; unit, functional and system testing; quality assurance; and warranty support. Consequently, the IBA team was comprised of a Project Manager, three System Analysts, three Architects, six Java Developers, four Testers, and a Technical Writer. The project involved a significant rewrite of the core system. The development was done in Minsk, Belarus, with short on-site workshops in Germany. All project-related documents were stored in a Lotus/Domino database accessible to stakeholders via browser.
Result	The customer received a high quality application that incorporated the latest technologies. Retaining all features of the legacy application, the new solution provided enhanced functionality such as visual interface for loan operations, graphic navigation for record selection, tree hierarchical structure, and context help. The new application enabled smooth integration with MS Word and Adobe Acrobat Reader/PDF. In addition to being compliant with the legacy database, it allowed for the simultaneous use of this database by the new and legacy applications. The new application supports more than 3,000 concurrent users.

Company Name	**INFOPULSE UKRAINE**
URL	www.infopulse.com.ua
Industry	Finance
Client Name	XRT Group, France/USA; www.xrt.com
Technology	COM, ActiveX, ADO, .NET, CrystalReports Languages: Visual Basic, C++, C#, SQL, XML, HTML
Scope Summary	Application design, development, integration, test.
Task Summary	Based on existing legacy software develop new version of popular treasury management solution with support of MS SQL and Oracle RDBMS, fully reworked GUI and ergonomics, implemented security, data interchange capabilities, internationalization features, improved functionality and performance.
Business Objective	A financial software provider XRT Group needed to outsource several software development projects to reduce development and support costs and at the same time speed up the evolution of its products.
Solution	U2 is the result of reanimation of the existing legacy cash management software and moving it, step-by-step, to a modern technology base - improving usability, adding new features and correcting existing defects. To achieve challenging project goals and guarantee non-regression while making such serious changes, we created an automated test framework and integrated it into the legacy system. As we had such a framework, we realized automated test scripts covering the majority of existing functionality. To bring the whole story live we set up an integration platform on which the system was recompiled, built, integrated and automatically tested each 3 hours. Results were automatically distributed by e-mail. All that let us refactor the legacy software dramatically while preserving its functionality and avoiding defects.
Result	Totally about 400 U2 licenses were sold by XRT after about 1 year of being on the market. Among them are: American Express, France Telecom, Dupont, Carrefour, Sonae Group, Sephora, Leroy Merlin and others. Global Finance Magazine considered XRT solutions as the best choice in Treasury management 2005. Product successfully passed “Designed for Windows XP” and “Designed for MS SQL Server” certifications.

Company Name	**ITCI**
URL	www.itci.com
Industry	Finance
Client Name	Leading Rating Agency providing market pricing/rating services
Technology	J2EE, XML/XSL, Tibco, Oracle, EMS
Scope Summary	Application Development, Reengineering, Innovation & Maintenance
Task Summary	As a phase in strategic Consolidated Platform initiative, ITCI was requested to architect, design and develop the intra-day system, which will contain market data information pertaining to fixed income instruments, such as municipal, corporate and government issued bonds. The new system should have the capability to accept and process any changes, updates to detailed fixed income description data for security master files, trading, risk analysis, clearance and settlement systems. It should function within the minimal process time allowed and at the moment these changes materialize.
Business Objective	The primary business objective of the Intra-Day Project is to support the industry demand for real-time delivery of fixed income securities data. With the advent of new technologies and increased globalization of the securities industry there has developed a need for decreased lead-time for securities settlement. The market regulators have required that fixed income securities settle within one business day of trade (T+1), which action is a precursor to the anticipated move to Straight Through Processing (STP) and same day settlement.
Solution	ITCI took full control of the intra-day fixed income project and delivered a significant enhancement to the fixed income product line. Significant changes to the process that moves data from the warehouse database (Reference file hosted on an IBM3090, DB2) to the product delivery database (currently SQNT10, Oracle) were implemented. In addition, ITCI delivered significant improvements to the workflow within the research group responsible for data updates. Reengineered system assures that reference and pricing data for key fixed income asset classes such as municipals, corporate and government bonds, are represented in a versatile, customizable and extensible manner. These changes further integrated the data supplied in the system feeds into the day-to-day operations of system subscribers, using web technologies.
Result	Our effective PMO-based client engagement model allowed ITCI to deliver the system to the client on time, within budget, and with significant ROI. The new system fully met business requirements and clients' needs. Currently the system is handling a multitude of securities and provides up-to-date, fast, customizable, flexible, extensible and scalable product delivery mechanisms and services, in a near-real time manner. It also has a capacity to respond quickly and efficiently to changes in industry. Its flexible design and low-cost addition and integration mechanism allows to build additional data types and asset classes to its repository and produce customized deliveries to subscribers.

Company Name	**ITCI**
URL	www.itci.com
Industry	Finance/Banking
Client Name	Global Investment Bank
Technology	J2EE, XML/XSL, Tibco, Oracle, DB2, EMS
Scope Summary	Application Development, Reengineering, Innovation & Maintenance
Task Summary	Major global investment bank serving the financial needs of corporations, institutions, governments and high net worth investors worldwide came out with a major IT initiative to centralize its securities information flow and create a security master, - a unified central global repository for all securities the firm has interest in its brokerage, trading, settlement, research, analytics and loan activities. Old system had decentralized and non-integrated various market-data feeds in many systems and a lot of redundancy.
Business Objective	To architect, design and develop Enterprise Security Master (ESM) with master database containing over 6,000,000 securities entries feeding over 200 internal and external systems. Significant part of the objective was to incorporate client bond rating information for fixed-income securities and their issuers and integrate along with other information in the security master. The ratings are received via Rating Express subscription feed and are used to price the securities and for sell/buy offers to bank clients.
Solution	The database was modeled to ensure all product attributes are to satisfy multiple business functions such as trading, settlement, and analysis. It contains descriptive security information as well as its price in various markets, collected via feeds handlers written in Java and Perl. The system matches data from market data sources such as client, Bloomberg, Reuters, Telekurs, IDC, Moody's, Bridge, etc. as well as internal sources in US, Europe and Asia. Normalizes it and integrates it into the same unified data structures that is accessed by the users of the system through the same standardized access EJB(java), Tibco(message) and SOAP routines that return the data and metadata as XML document.
Result	Our effective PMO-based client engagement model allowed ITCI to deliver the system to the client on time, within budget, and with significant ROI. The new system fully met business requirements and clients' needs. Currently the system is handling over 2,000,000 securities and provides coverage for corporate/government bonds, preferred securities, listed and private equities, US listed options and single stock futures. The 3 first stages of the project were successfully analyzed, designed, coded and implemented in production by ITCI cutting the maintenance resource requirements and greatly enhancing the functionality offered to the corporate users. ITCI is currently working on implementing mortgage-backed securities, CMOs, CMBs, municipals bonds, fixed-income derivatives, non-listed options, and money market instruments.

Company Name	**ITCI**
URL	www.itci.com
Industry	Finance / Fixed Income
Client Name	Investment Division of World's Largest Bank
Technology	J2EE/J2SE, XML/XSL, Tibco, Sybase, CORBA/RMI, MQ, Swing
Scope Summary	Application Development, Reengineering, Innovation & Maintenance
Task Summary	World's largest bank was facing the need to implement compliance requirements for global fixed income trading desk within very tight deadlines. The purpose of the Retail Pricing Control project was to enhance the existing Retail Bond Offering, Bid Requested trading business by providing traders with the necessary functionality to facilitate trading price compliance. The Retail Pricing Control system was required to leverage the Retail Trading and Offer management infrastructure, participate in existing trading flows and adhere to corporate security guidelines. Extensive reporting and management review processes needed to be implemented.
Business Objective	The key goal and benefit of this project was to facilitate and manage trading price compliance. Specific system functions should be developed to help users to calculate allowable price band, to monitor trade prices and provide explanations for trades executed outside of the allowable price band. An archive of exceptions and related trade and market information should be created and made available for reporting and historical queries. Additional functions should be provided to manage and maintain price band algorithm parameters.
Solution	The Retail Pricing Control project delivered a real-time, reliable and customizable solution, which allowed for complete conformance with federal compliance requirements as well as seamlessly integrated into existing real-time trading infrastructure. Additional user interfaces required to access the system were built which provide extensive reporting, corporate SSO and security infrastructure integration, messaging middleware compatibility. Permissioned functions, business flows and interfaces have been built to manage volatile trading activities and management level review / approval process.
Result	Our effective PMO-based client engagement model allowed ITCI to deliver the system to the client on time, within budget, and with significant ROI. The new system was developed under tight deadline requirements and fully met business requirements and client needs. Currently the system is handling High-Yield / High-Grade Corporate Bonds trading desks and will be extended to other trading desks in the near future. The demand for this system implementation is very high since it fully automates complicated compliance process for large investment institutions. Customizable architecture allows for incremental and low-cost integration with subsystems used in the investment bank. Architecture provides easy horizontal and vertical scalability suitable for high and low volume trading desks.

Company Name	**LUXOFT**
URL	www.luxoft.com
Industry	Banking and Financial Services
Client Name	Large full-service international bank
Technology	• Database development: Oracle using PL/SQL • Business logic and presentation layers: Java (J2EE) and JSP • Platforms: Windows XP and UNIX (Sun Solaris)
Scope Summary	Application Development, Reengineering, Innovation & Maintenance
Task Summary	A large international bank wanted its LUXOFT Offshore Dedicated Center (ODC) to create a Customer Relationship Management (CRM) system to replace the business critical CRM application the bank had produced in-house. The new system needed to provide internal staff with a flexible workspace that links CRM information with other business critical content and to ensure an accurate, up-to-date, and comprehensive overview of each client relationship. The main goal: the new application should improve customer relationship quality and increase service efficiency.
Business Objective	The primary business objective of the new CRM system is to support the bank's Global Corporate Finance division in better serving its customers by granting easy access to real-time, critical client and business data regardless of employee location.
Solution	LUXOFT developed a CRM web portal for the bank's Global Corporate Finance division. The system was named a "Highly Recommended" technology by the industry publication Banking Technology. The application was deployed within a portal framework and is based on a three-tier design. All data is stored in an Oracle database and displayed through a web-based user interface. Users access the system with a standard html browser and a single instance of the Oracle database and CRM application service many clients simultaneously. LUXOFT introduced several features to the web-based, remote accessible system, including the innovative implementation of "Think Map,"a modular third party software utility that displays client data graphically. Users access all system functions from one location, and each user has the ability to customize his or her application environment. The program's interface is intuitive and presents a look-and-feel in concert with the most popular business applications.
Result	LUXOFT's effective client engagement model enabled it to assume full control of the project within three months, twice faster than the six-month target. The system was delivered to the client on time, within budget, and has yielded significant ROI. The new CRM application is three times faster than its predecessor and system functionality exceeded original client requirements with the addition of innovations such as remote wireless connectivity, the integration of the Think Map module, and a feature that allows each user to customize his or her application environment. The solution aggregates data from many external sources into one centralized, web-based portal. Bankers in the company's Global Corporate Finance division can easily access up-to-date data from any location to quickly evaluate client status. The delivered CRM system is customizable, flexible, and expandable, offers advanced search functions, and has a sophisticated entitlement system that governs user access rights.

Company Name	**Reksoft**
URL	www.reksoft.com
Industry	Financial Services
Client Name	**Saxo Bank**, Denmark, www.saxobank.com
Technology	MS .NET framework (VB. Net, ASP. Net, ADO. Net), MS SQL Server 2000
Scope Summary	Development of an innovative online trading platform for private investors within an Offshore Development Center.
Task Summary	Full-cycle software application development including participation in defining the requirements and system design, system architecture, implementation and integration.
Business Objective	Enjoying the reputation of an innovative, award-winning and technology-driven European Internet-bank, Saxo Bank decided to enter a new customer segment with the launch of an advanced online trading platform for private investors. Using the new platform, Saxo Bank was able to rapidly introduce and offer its private investors professional trading and innovative services.
Solution	**Saxo MiniTrader** platform offers entry-level trading on a popular selection of instruments from the Saxo Bank product range, including: - Direct trading on live tradable prices through the professional online trading platform - Low trading costs and spreads - Reputable fully regulated EU bank where the Saxo Bank multinational staff offer full personal service in 18 languages - Wealth of trading recommendations and market predictions from the Bank's own analysts and major financial institutions
Result	Professional trading and services platform for private investors has been developed and put into production within a limited period of time. Saxo Bank was able to extend its customer base through the launch of an innovative solution for a new market segment. **Saxo MiniTrader** online trading platform fully meets the exacting needs of the Bank's clients. Combining a highly secure online environment with a wealth of trading modules, Saxo MiniTrader helps private investors of Saxo Bank make successful trading decisions with real-time execution.

Company Name	VDI
URL	www.vdiweb.com
Industry	Financial & Investment Services
Client Name	The leading independent investment group in Europe, and a global market leader for investment and financial services has chosen VDI for the mission critical project
Technology	COM+, .Net, Informix, MS SQL Server
Scope Summary	Reengineering, Integration
Task Summary	Following an internal audit of their IT systems, the customer identified the need for an improved, high-performance order management system capable of handling the huge volume of daily transactions for its trading network. The new system would not only have to be robust in order to handle the numerous complex business processes, but scalable and compatible with current and future modules and components. The ability to deploy this new system and implement all changes without disrupting ongoing business processes was an essential requirement for the investment giant.
Business Objective	For the customer, an Order Management System was an essential investment in order to maintain its position atop the financial and investment services markets. A reliable system that would provide superior performance under the high volume of orders typical for the company was essential. Due to the nature of equities markets, the ability of the system to effectively scale to meet the needs of traders was an absolute necessity, and the way to ensure viability and ROI well into the future.
Solution	• Using new business logic components developed by VDI specialists, new modules were added, bringing new functionality and performance to the system, without modifying the system kernel. • Scalability being one of the customer's top priorities, the solution developed provides vertical scaling for hardware expansion, as well as horizontal scaling, supporting new application servers. • Using COM+ to develop the new business-logic objects, VDI specialists were able to improve performance significantly. To provide greater speed and reliability the VDI architects designed the system database to be divided into an active and archival component. Thus, allowing the system to focus greater data processing power on active business processes. • High fault tolerance of the system was achieved as a result of the unique data and business logic management tier that consists of database clustering based on two or more servers. The kernel's components automatically supply load balancing, redistributing process commands to other servers of the cluster when the loading level is exceeded. • The new system's architecture, incorporating some 250,000 lines of code, utilized the .NET framework in a three-tier architecture consisting of: a client tier, an application tier integrated with Informix, and a database tier using an MS SQL Server cluster • The system provided parallel interoperability with legacy systems through common data access.
Result	The VDI team delivered a high-performance order management system that provided the customer with the performance, reliability, and scalability to help them maintain their market dominance. Through intense on-site testing involving three global offices, VDI successfully deployed this system without any interruptions to ongoing business processes. The order management system now in place is capable of serving a large user base to address the needs of a global customer base.

Health Care

Company Name	**Aplana Software**
URL	www.aplana.com
Industry	HealthCare
Client Name	**GE Medical Systems**, a world leader in the field of medical diagnostic imaging technology, services and healthcare productivity, operates in more than 100 countries
Technology	Oracle, MS Visual Basic, MS Access; Trilogy, Rational and Microsoft SDLC Tools
Scope Summary	Outsourced development and maintenance of corporate and commercial applications
Task Summary	Since 1999 I.T.Co/Aplana has been providing to GEMS outsourced development and maintenance of corporate applications, mainly in the area of client-server and Web development. The most significant projects are two corporate Sales Support systems used in about eighty GEMS offices in Europe and Asia to create, maintain and price service offerings. All projects involve regular release planning and updates in accordance with needs, further product development, and daily maintenance and support.
Business Objective	GE Medical Systems (GEMS) had been using an outsourcing scheme for several years, mainly relying on suppliers in India. In search of alternatives, in 1999 the European head office launched a tender among Russia's leading IT companies and awarded the contract to I.T.Co/Aplana that was selected primarily for its integrated quality system and a proven technological process of software development.
Solution	Services have been provided on a per-project basis and involve application design and development, interface module development, product localization, legacy data transfer, testing and documentation services. The key factor of success in optimizing GEMS' business processes is the tailoring of Aplana's existing software development process to GEMS' standards (Six Sigma, internal development standards). Prototyping is used to provide intermediate versions for user interface, functionality and business logic of the system. Aplana provides cost effective delivery model: • A dedicated team (70% off-site) works permanently on long-term projects, resources is expanded as required. Permanent core team helps to shorten drastically the initial phase for new projects and hence the overall project costs. • Single development and support team provides quicker feedback, rapid co-operative problem solving and lower maintenance cost. • Work is planned six months in advance to enable efficient resource allocation and exclude additional risks, so they are not budgeted.
Result	Five years of cooperation resulted in over 20 smaller projects in 3 project areas delivered within time and budget frames. Aplana is distinguished by its ability to solve non-trivial tasks that require research and modeling or detailed problem specification

Company Name	**LANIT-TERCOM**
URL	www.lanit-tercom.com
Industry	HealthCare
Client Name	Laerdal Medical A/S
Technology	J2EE, JBoss, OpenLDAP, MFS
Scope Summary	Application Development
Task Summary	The client was developing a large-scale medical simulation product and needed to create a support environment for it. This included the development of a web-based competence management system, as well as a set of utilities.
Business Objective	The Competence Management System (CMS) is a software tool designed specifically for learners and educators. The CMS enhances and helps the educational process needed to build professional competence. The system provides a central administrative link to different modes of learning allowing effective information processing and management.
Solution	The server is implemented using J2EE technology, JBoss application server and OpenLDAP directory server. It can be integrated with existing LDAP-based user directories and can be set up on a range of platforms including Windows and Linux. The utilities are mostly using MFC and run under Microsoft Windows.
Result	The competence management system represents an integrated approach to knowledge and progress management. It is an easy to use and configure centralized repository for all users of the Laerdal Sophus flagship product – HeartCode/Microsim. The system helps the customer to keep track of their learners/students and their learning progress and acquisition of competencies.

Company Name	**StarSoft Development Labs**
URL	www.starsoftlabs.com
Industry	Healthcare
Client Name	CSC Denmark
Technology	J2EE, BEA WebLogic, Oracle 9i, XML, SOAP
Scope Summary	Business applications development, Legacy Migration
Task Summary	Labka is a laboratory information system (LIS) supporting requisition and analysis of clinical chemical samples and also of microbiological samples. The system was developed and deployed in 40+ Scandinavian hospitals by CSC Scandihealth, one of the CSC companies in Denmark. The new system is intended to be a replacement for the legacy LIS. The platform selection principles imply open standards adopted wherever they exist and high levels of portability, availability and scalability in order to cope with increasing volumes and functionality.
Business Objective	CSC's incentive to develop the new software system, Labka II, as a replacement to their currently deployed system came from the fact that the hardware and operational platform on which Labka runs (HP1000) would reach its end-of-life in 2006. CSC required a system incorporating the most up-to-date technology in order to ensure long life, high competitiveness, efficient deployment and maintenance, and further evolution. The new software should match and exceed the old system's functionality.
Solution	StarSoft was chosen as a subcontractor for this particular project based on the fruitful collaboration CSC and StarSoft had enjoyed since 1997. StarSoft had successfully delivered a number of projects of different size and requiring different skills. The Labka II project started in October 2001, and the end of the deployment stage is planned for spring 2005. StarSoft's participation in the project involves complete design and development of the Labka II software product, including participation in the discovery stage, high-level and low-level software design, implementation, quality assurance, documentation, hand-over, field tests, warranty, project management and necessary translation of CSC deliverables from Danish into English.
Result	* Labka II greatly exceeded the original system's functionality; for example, the new system now supports "multi lab" and "external lab" configurations * Labka II incorporates the most up-to-date technology, thus ensuring long life, high competitiveness, efficient deployment and maintenance, and enabling further evolution of the system * Cost savings achieved by CSC as a result of subcontracting StarSoft exceeded 50% * CSC will deploy the new LIS in a large networkof hospitals across Denmark and Sweden, and is considering marketing the system as a standalone product.

Hi Tech Industry

Company Name	**Mirantis, Inc.**
URL	www.mirantis.com
Industry	High Tech R&D
Client Name	Cadence Design Systems is the world's largest supplier of electronic design technologies, methodology services and design services.
Technology	Electronic Design Automation (EDA), Software and Hardware Technology
Scope Summary	Product Lifecycle Management, Technology Acquisition, BOT
Task Summary	In a drive for innovation Cadence is constantly looking to expand its presence in places with excellent education and engineering discipline as well as locate a number of indigenous technologies to enhance Cadence product lines, including the design of high-performance electronic systems and integrated circuits (ICs). A new TDC was to be built supporting Cadence's line of the most comprehensive products in the industry, including end-to-end solutions for system, digital, analog and printed circuit board designs.
Business Objective	Cadence was looking to outsource a number of permanent technology initiatives where the required skills mapped well into the country profile of Russia. The new teams capable of handling the full-lifecycle support of some of the world's most complex technology products needed to be assembled. The processes and resulting work products needed to be seamlessly integrated with the rest of the organization under the standard Cadence Governance Model. Part of the objective was to transfer the TDC into Cadence ownership once the organization reached critical mass.
Solution	Cadence chose Mirantis TDC Build-Operate-Transfer (BOT) model as their entry into Russia. Mirantis worked with Cadence to build and integrate the initial team, worked on modifying and transferring the new processes and governance to the Moscow-based TDC. Mirantis worked with Cadence to transfer Cadence's corporate culture to the remote center and also helped in achieving greater integration with teams in San Jose, Asia and Europe. In addition to the R&D program, Mirantis also managed Cadence's entry into the leading electronics universities allowing Cadence to become the leading EDA in Russia. Mirantis also managed indigenous technology acquisitions for Cadence allowing them to build their technology portfolio and Russian presence to the level when it was considered internally as a center of excellence.
Result	Cadence and Mirantis were able to integrate the remote operation and in less than three years achieve its goal of reaching critical mass and executing a transfer option of the BOT relationship. Mirantis and Cadence were then the first in the industry to bring to fruition the successful completion of a Build-Operate-Transfer (BOT) methodology, providing Cadence a distinctive new approach in maintaining a Technology presence in Russia. Today, the Cadence Russia development center is the third largest R&D site in the company.

Company Name	**Mirantis, Inc.**
URL	www.mirantis.com
Industry	High Tech and R&D
Client Name	Genesis Microchip Group
Technology	Display controllers that receive and process digital video and graphic images for viewing on a flat-panel display.
Scope Summary	Full Service Operation, Software Development, R&D, IC Design, Firmware Development, Test and Q&A
Task Summary	Following a strategic acquisition, Genesis inherited a small team of talented engineers located in St. Petersburg. In order to take full advantage of the talent provided by Russia, Genesis needed to build a full service operation providing personnel and infrastructure without having to experience the learning curve necessary to accomplish the objective, thus allowing Genesis to fully concentrate on performing business. Mirantis was requested to manage the remote engineering site to ensure good performance, compliance, and IP security.
Business Objective	Genesis had a need to extend its software, firmware, and IC development and support group to satisfy growing customer requirements. Genesis needed to find a team of highly skilled engineers within the area of microchip design for the new generation of their flat screen display monitors.
Solution	In Saint Petersburg, Mirantis created a group of highly skilled engineers to cover the three main areas, IC Design, Firmware Development and Test and Quality Assurance. From the inception this team was considered as an integral part of the Genesis R&D organization on the par with its US, Canadian and Indian locations. The Canadian office of Genesis submitted blocks of microchip design for development to the group in Saint Petersburg who took full responsibility for design and implementation of the blocks. Another group of engineers worked directly with Genesis customers in resolving their needs for customization and localization of the software proved with the Genesis chip. Another group of engineers at the Saint Petersburg location works in conjunction with the development offices of Genesis Microchip in Canada by creating software for newly produced chips. All of this includes quality assurance testers and technical documentation specialists with the responsibility to cover the testing of the software produced in Saint Petersburg as well as documenting the produced customization and new software.
Result	Utilizing the entire components put in place for Genesis by Mirantis resulted in Genesis reducing their spending on development and enables them to build a unique group of specialists in their products and significantly reduce development time. The time difference and proximity to European customers of Genesis increases the value of the Saint Petersburg location.

Company Name	**Mirantis, Inc.**
URL	www.mirantis.com
Industry	High Tech R&D
Client Name	VERITAS Software Corporation
Technology	C, SUN/Solaris, OS, UNIX Kernel
Scope Summary	Develop Software, in-memory n-mode clusters
Task Summary	Develop software for VERITAS, ServPoint Appliance of the SAN (Storage Area Network). VERITAS ServPoint Appliance Software for SAN is one of the key products of the company and is an open and scalable storage solution that transforms industry-standard servers into enterprise class storage appliances. New software developed had to realize write-back mode capabilities in the high available systems, thus implementing in-memory n-node clusters. The search was for a company that could produce leading-edge capability with the latest in OS, UNIX Kernel and Storage Management technologies.
Business Objective	To develop software that would allow VERITAS to significantly improve the performance of their ServPoint Appliance product in the competitive market.
Solution	Mirantis located and employed a group of Russian professionals experienced in similar type projects and were responsible for designing various subsystems for leading Russian computer platforms. This group was able to bring a lot of new concepts and ideas related to the software VERITAS was interested in. Technical and project management was conducted by the VERITAS staff members who were responsible for all phases of the project including an integration of the developed solution into the company's product suite. A group of Mirantis engineers created high-level designed documents when the proposed solution was outlined. After extensive technical discussion with VERITAS a development team revised the version of the design document, which was accepted and approved for implementation.
Result	Mirantis and VERITAS created a development plan that included milestones and deliverables. Simultaneously detailed technical specifications were created by the Mirantis group and approved by VERITAS. A solution was produced in C under SUN/Solaris and allowed save-RAM disk in a clustered environment for both kernel and user modes. Delivered software was integrated with the ServPoint Appliance suite of VERITAS. The software developed by the Mirantis group allowed VERITAS to significantly improve the performance of their ServPoint Appliance product in the competitive market.

Hospitality Services

Company Name	**Aplana Software**
URL	www.aplana.com
Industry	Hospitality
Client Name	Management Technologies (USA), a leading supplier of business automation software for the hospitality industry
Technology	
Scope Summary	Re-engineering of Service Order Management solutions on a new technology platform
Task Summary	Re-engineering of existing service order management solutions for the purpose of changing the deployment model to ASP mode in order to ensure a faster product implementation, to optimize on-going maintenance costs and lower cost of ownership for the customers.
Business Objective	Since 1992 Management Technologies (M-Tech), USA has been focused on development and marketing of automation solutions for the hospitality industry. It is recognized for its service order management applications - Espresso! Product family that helps to maximize the quality of service and ensure guest satisfaction in over 450 hotels in 34 countries worldwide, including Marriott Hotels Corporation, Interstate Hotels Corporation, Inter*Continental Hotels, Sheraton Hotels and many other hotel networks. As geographically distributed customer bases increased, on-going maintenance of the system that involved on-site version updates, integration with other IS and user support began to slow down further business growth of M-Tech. The company decided to improve the deployment model changing it to ASP-like. To fulfill the new business idea it was necessary to design a new technological concept and to re-engineer the existing product family. For this purpose, Aplana Software was selected as the development partner.
Solution	The project involved redesign of existing Espresso! Product family and development of a new product - Hotel Service Order Optimization System (hotSOS) that complemented the existing functionality with many new essential features. Aplana suggested using web-services and Microsoft .NET framework as a core point of the technological concept of a new product. The system was designed as a set of distributed components that communicate over the Internet by means of an ASP interface, Hand Held Devices, Telephone Interface and external Interfaces such as PMS Interface.
Result	The deployment of the first commercial version of the system started in April 2004 and just within 2 months 450 new hotels started their operation with hotSOS, and other 450 existing customers are to be moved to hotSOS in the near future. Key results: M-tech decreased significantly on-going maintenance costs of worldwide product installations • M-tech gained a strong competitive advantage via better customer needs satisfaction for lower cost of ownership and plans to double it's customer base just for the current year (from 450 to 900 hotels). • Faster deployment because of standardized integration, data import from legacy systems and configuration procedures.

Company Name	**Reksoft**
URL	www.reksoft.com
Industry	Hospitality
Client Name	SoftBrands Hospitality Inc., USA, www.hospitality.softbrands.com
Technology	MS Windows 9x/NT/2000/ME/XP, C++ (Borland), RDBMS Sybase Adaptive Server Anywhere, TCP/IP, COM&DCOM (ActiveX), XML
Scope Summary	Software product development and support within an Offshore Development Center
Task Summary	Full-cycle co-development of the Medallion Property Management System, including product management, project management, implementation, maintenance, as well as 2nd and 3rd-line support for the global network of Medallion distributors.
Business Objective	To develop and support one of the world's leading Property Management solutions for small and mid-class hotels, hotel chains and extended-stay hotels.
Solution	**Medallion PMS** (marketed in Europe under the **WinnLodge** trademark) is a Property Management solution for small and mid-class hotels, hotel chains and extended-stay hotels. **Medallion** is noted among its clients for its easy-to-use, single-screen approach to property management. Its intuitive "Look-and-Book" function lets the client make drag-and-drop bookings using a graphical property representation. **Medallion** offers a wealth of innovative features: seasonal rate structures, family reservations, travel agent allotments and charge routing. Because Medallion integrates with Microsoft® Office, the data can be reproduced in a variety of formats to put that information to valuable use and enhance the business potential of clients' property.
Result	**Medallion** is the flagship product of SoftBrands Hospitality Inc., which is an internationally recognized developer and supplier of software solutions for the hospitality sector. 700+ installations all over the world. Over 50 interfaces to 3rd party's systems.

Insurance

Company Name	**EPAM Systems**
URL	www.epam.com
Industry	Insurance
Client Name	CareFirst BlueCross BlueShield (www.carefirst.com)
Technology	J2EE (JDBC, JNI, EJB, JMS, Servlets), PDF Forms (FDF), WAC, Struts, HTML/DHTML, Java Server Pages (JSP, XML/XSL/XSLT)
Scope Summary	Application development, legacy system integration, enhancement development, maintenance
Task Summary	The Customer required customizable, high-function relationship management solutions, which would be responsive to the unique needs of business processes in the company.
Business Objective	- Broker Portal: to create a new system to enhance broker-based Small Group sales. - Individual Sales CRM: to create a best-in-class CRM system that increases sales and improves service. - Self-Service Individual Portal: to enhance system to support rapid growth of Individual insurance sales over the web.
Solution	Broker Portal is designed to facilitate customer and prospect interaction thereby simplifying basic sales activities such as managing prospects and census information, configuring quotes and generating proposals for complex insurance products. The sales system effectively clones the competence of the best brokers. Individual Sales CRM provides instant visibility into sales and marketing functions by supporting all aspects of oversight and management, including broker and customer communications, sales campaign coordination, collateral fulfillment, sales channel monitoring, renewals, and multiple levels of reporting. Self-Service Individual Portal provides a way to offer best-in-class direct online sales and servicing to their individual customers, with intuitive shopping, plan comparison, application, purchasing, enrolling, renewal and management.
Result	EPAM's Insurance suite of interactive solutions has enabled CareFirst BlueCross BlueShield to reduce operating and marketing expenses, streamline processes, increase sales, improve service quality, and introduce new products to the market more quickly and efficiently – a distinct advantage in the highly competitive Insurance industry.
Customer's Quote	*"CareFirst began working with EPAM in 2000... its reasonable costs and high quality were selling points to drive the relationship to the next level. EPAM has worked through the business requirements with us, and the business users are very comfortable with us using EPAM."* - Maynard McAlpin Director of E-commerce CareFirst BlueCross BlueShield

Software Products and Services

Company Name	**ATAPY Software**
URL	www.atapy.com
Industry	Information technology
Client Name	EasyData B.V. + Océ-Nederland B.V.
Technology	Various development tools for MS Windows; ABBYY FineReader OCR toolkits.
Scope Summary	A number of projects involving creation of document capture systems for a large international manufacturer of office and computer equipment.
Task Summary	Merging together the power of third party application ABBYY FineReader and the experience of ATAPY's engineers, EasyData provides Océ with high-quality software applications.
Business Objective	In order to raise competitive advantage of its product offerings, Océ wanted to develop and put on the market new tools for workflow automation.
Solution	Cooperation has started with a relatively simple "Océ Document Interpreter" application which detected separator pages within the incoming image stream and split the stream into multi-page documents. Stability, short development time, and low cost of this initial application led Océ to request additional features, such as barcode search and logging, empty page detection and many others. Another application, titled FineRead, packs the power of ABBYY's OCR technologies into a silent "image gobbler", lurking as an NT service program and monitoring selected catalogues for new images. Incoming images get recognized and exported according to a sophisticated set of instructions composed by the user.
Result	Merged together, these two applications formed the basis for Scan2IT ("Scan to Intelligent Text") - a complex image processing system now offered by Océ offices around the world. Cooperation between ATAPY, EasyData and Océ continues toward more sophisticated applications such as document capture front-end applications and Web-based scanning and archival systems.

Company Name	**AURIGA, Inc**
URL	www.auriga.com
Industry	Software and Technology
Client Name	LynuxWorks, Inc. (USA)
Technology	Embedded and real-time systems supporting all current platforms and architectures (PowerPC, ARM, XScale, x86 family, SuperH, Alpha, I/O processors, etc.)
Scope Summary	Full cycle Linux OS, and Real-time OS development, release engineering and support: kernel, BSPs, drivers, and tools.
Task Summary	LynuxWorks, a world leader in the embedded software market, outsourced BlueCat Linux development to AURIGA, which had offered the best combination of skills, quality, and price. Within a short period of time, AURIGA shaped a team of 22 top-notch Linux kernel engineers for the project. It took just five months for Moscow-based AURIGA engineers to complete the initial implementation.
Business Objective	LynuxWorks's objective was to develop its own version of embedded Linux distribution – a fully open source OS, but with enhancements, extensions, bug fixes, and support, to make it better suited to embedded systems and soft real time applications. Tailored for embedded development and deployment, BlueCat Linux is uniquely constructed to be a stable, commercial-grade embedded operating system providing immediate productivity and optimized performance through: packages that are tailored to varying requirements for tools and technical support; a comprehensive set of tools and board support packages for developing, debugging and deploying Linux into embedded environments. BlueCat Linux scales from small consumer-type devices to large-scale multi-CPU systems.
Solution	AURIGA's team has performed full life cycle development and maintenance for BlueCat Linux. The whole product, from the very start, has been designed, developed, qualified, documented, productized, and maintained by AURIGA engineers.
Result	The first version of BlueCat Linux won a most prestigious Electron d'Or Award from the French magazine Electronique as the best-embedded software of the year. The mutually rewarding collaboration between LynuxWorks and AURIGA has led to one of the most recognized embedded Linux products. Moving forward in 2005, the two companies are continuing to build on their partnership with feature enhancements and follow-on releases. BlueCat Linux 5.0 represents a leading source of stable, commercial-grade embedded Linux technology that provides the flexibility and cost benefits of open source software.

Company Name	**Digital Design**
URL	www.digdes.com
Industry	Software Development
Client Name	Microsoft Consulting Services
Technology	MICROSOFT BizTalk Server 2000
Scope Summary	EDIFACT Server Prototype
Task Summary	The system has been developed together with Microsoft Consulting Services for "RZD" (Railways of the Russian Federation). "RZD" was an active participant of the TEDIM initiative (Telematics in Foreign Trade Logistics and Delivery Management) launched in 1994. The initiative involved several projects to develop electronic solutions for the companies working in the field of foreign trade logistics. As a result of international cooperation, "RZD" had to perform the task of document exchange automation during export/import activities. For instance, the necessity arose to automate data exchange between the following organizations: • Main computer center of "RZD" • Finnish transportation company (The organizations exchange the following documents.) • Bills of lading prepared by consignor
Business Objective	The aim was to achieve faster transportation of cargo abroad, lower costs of transportation and more efficient management in the transportation industry.
Solution	The problem of document interchange with the Finnish transportation company was solved by integrating the specialized EDIFACT, (Electronic Data Interchange for Administration, Commerce and Transport), servers of the company and the NMTP (Network Model of Transportation Process) system of "RZD." Digital Design developed an EDIFACT server prototype based on MICROSOFT BizTalk Server 2000. The system performs the following operations: • Receives and processes documents according to the established import procedure. • Receives and processes documents according to the established export procedure. • Logs all performed operations and displays the log records, if necessary.
Result	Advantages of the system deployment: • The infrastructure for data interchange has been created; • Both client and server parts of the system can run on different platforms and interact with different applications via unified interface, as the system supports different platforms. • MQSeries ensures 100% message delivery; • Client's part can be built into existing applications or applications that are being developed, without any changes to the applications; • Advanced administration tools allow easy configuration and monitoring of system components; • System scalability and flexibility provide for easy deployment of new software applications and hardware. • The system can be customized: other document formats can be added to the system or existing formats can be changed. The implemented business logic can also be changed or augmented by other processes. The system can also be extended to process messages received from other partners.

Company Name	**Intetics Co.**
URL	www.intetics.com
Industry	IT Security
Client Name	Zone Labs
Technology	C++, Open SS, LSP API, XML
Scope Summary	Application Development (UI, security protocols); System Programming (TCP/IP injection; code injection); Plugins for Instant Messengers; Mass Testing.
Task Summary	Creating filtering, encryption, policy management, and reporting modules for IMsecure® an instant messaging (IM) encryption and filtration system for major IM protocols. Unlike most IM security tools that modify IM program settings and function as proxy servers that all network traffic passes through, IMsecure is independent of the functionality and settings of IM software installed on the user's computer.
Business Objective	Instant messaging (IM) has been a rapidly growing communication medium for over a decade. Initially used for exchanging messages between friends and chatting in leisure time, IM has become the preferred mode of corporate communication. About 85% of U.S. companies are reported to connect to public IM services from the office. However, insufficient security offered by the major IM providers poses a threat of virus infection, interception, impersonation, message modification, and intellectual property theft. Zone Labs's powerful IM security solution protects individuals and businesses that employ this efficient yet vulnerable collaboration technology.
Solution	The encryption-per-protocol approach allows the new security system to work with AOL, Microsoft, and Yahoo! IM software, as well as with other instant messengers that support the same protocols (e.g., Trillian Pro by Cerulean Studios that supports the AOL, MSN, and AIM protocols). Using LSP (Layered Service Provider) API makes it possible for IMsecure to capture the network traffic and perform encryption and filtering in a most transparent way. Since IMsecure works on the protocol level, it is not bound to specific IM software or its versions – an IM session is secured even if one of the parties uses MSN Messenger, and the other, Trillian Pro, or if the parties use different versions of MSN Messenger. For IM traffic encryption, OpenSSL was employed; the choice was determined by the consideration that only open source security and encryption technologies are reliable because they are constantly tested, reviewed, and improved by the development community worldwide.
Result	IMsecure is the most advanced, comprehensive, easy-to-use, and popular IM security solution on the market. Since it works at the protocol level, it protects the users of most major instant messengers. Providing reliable end-to-end encryption and consistent filtering of IM communications, IMsecure prevents interception, impersonation, and message modification, blocks spam, reduces the exposure to viruses, and protects any confidential data specified by the user.

Company Name	**LANIT-TERCOM**
URL	www.lanit-tercom.com
Industry	Business Application Development
Client Name	Seer Technologies, Inc., Relativity Technologies, Inc.
Technology	From Cobol, PL/I, Adabas/Natural, OS2 up to Java, Visual Basic, DB/2, Oracle, MS SQL Server, MS Windows
Scope Summary	Software Reengineering, Innovation, Research & Development
Task Summary	The Client had developed and was selling a proprietary platform for business application development (HPS – High Productivity System). In order to attract new customers, it was important to be able to import a custom-built application written in COBOL into this platform. The problem was complicated by the fact that legacy platforms were noticeably different from the target HPS platform. Later on this developed into a solution for a more general task – legacy transformation from old languages, such as COBOL, PL/I, Adabas NATURAL into modern languages (C++, Java, Visual Basic).
Business Objective	RescueWare is a full-featured legacy modernization product. It is used to document existing systems (Legacy Understanding), streamline legacy applications, extract and create reusable components (Componentization), enabled them to integrate with other applications (Integration), and transform ageing legacy code into modern computing languages (Transformation).
Result	All the conversion is executed in three stages, which are analysis, re-design and transformation, with special tools existing for each stage. During the First Stage Lanit-Tercom engineers made an inventory of the existing application. With a solid understanding of application and DB structures, the engineers were able to reconstruct any knowledge that could have been lost during many years of system exploitation. During the Second Stage the staff sought to understand what part or parts of the old system may have been deleted, and what parts needed to be reconstructed and what could be saved. It is especially important to understand all correspondence between the old and new DB structures, so that all generated programs will work with the new relational DB. The Third Stage was to convert the system to the target language and OS. After automatic conversion some manual work was required, and now - development and supporting. In 2005 it was integrated with IBM products: the agreement includes the integration of the Modernization Workbench with IBM's WebSphere Studio Asset Analyzer and WebSphere Studio Enterprise Developer. Its Solutions and services enable companies to rapidly integrate their mission-critical business processes with new enterprise and e-Business technologies. "*If I didn't' find this Russian company, Relativity Technologies wouldn't exist. Other Technology companies are having to cut developers, quality assurance people and customer support staff and this directly impacts their ability to innovate, support customers and survive."* Vivek Wadhwa, CEO of Relativity Technologies (interview with Associated Press)

Company Name	**AURIGA**
URL	www.auriga.com
Industry	e-Business software and tools
Client Name	BroadVision, Inc. (USA)
Technology	J2EE, Java, Oracle, Visual C++, UNIX C++, C, Lisp, Rational tools Solaris, HP-UX, Windows NT/ 2000/XP, IBM RS6000 AIX,
Scope Summary	Software product development, refactoring, integration and PLM
Task Summary	Having acquired Interleaf, BroadVision, a global provider of enterprise self-service web applications, faced the need to integrate Interleaf's BladeRunner, a unique enterprise content management solution, into BroadVision's core product offering which in now known as BroadVision Content.
Business Objective	The objective was to develop a system, which would allow turning static business information into personalized, structured content, to transform a company's ad hoc publishing efforts into a streamlined and comprehensive process, increasing consistency, efficiency, and productivity.
Solution	AURIGA has been directly involved in the transformation of BladeRunner into BroadVision One-to-One Publishing and its continued development into a leading content management solution. Auriga's contribution to the project included development of the following key modules: • Workflow Designer - allows user to draw graphical representations of various activities in a workflow • Workflow Manager - used to manage workflow, forward tasks and related information from one user to another, assign specific staff members to tasks, set deadlines, etc. • Information Manager Desktop - allows user to check out, edit, and check in data to a repository • Support for European, Japanese, Chinese and Korean languages was implemented
Result	With Auriga's assistance, BroadVision delivered one of the most effective Web content management applications in the industry. BroadVision One-To-One Publishing was voted, "Content Management Product of the Year" by readers of InfoWorld Magazine. Outsourcing the product development, integration and maintenance tasks to Auriga's offshore team allowed BroadVision to: • Cut down development costs by 40-45%; • Reduce time to market; • Re-focus BroadVision's in-house staff on new product research and development. BroadVision's outsourcing partnership with Auriga evolves and becomes increasingly complex. Auriga's offshore team is currently (2005) engaged in development, QA, maintenance, and support of several BroadVision flagship applications including Content. The Aberdeen Group cited BroadVision's relationship with Auriga as an example of best practices in offshore software outsourcing: "BroadVision and Auriga have created collaborative processes and a sense of shared responsibility that qualifies their current relationship as an example of best practices. … The relationship between the two companies has grown to the point where BroadVision views its Auriga team as a remote extension of its internal development organization."

Company name	**"Speech Technology Center Ltd"**
URL	www.speechpro.com
Industry	IT
Client name	GATELINX
Technology	Clear Voice algorithms
Scope summary	Technology development, innovation and management
Task Summary	Minimization of bandwidth requirements and utilization of existing infrastructure to deliver crystal clear voice over IP.
Business Objective	To enhance quality of Voice in VoIP conferences using the STC Denoiser Clear Voice technology , thus increasing customers satisfaction and cutting down costs of using VoIP voice channels.
Solution	The Clear Voice Technology provided an affordable, efficient and flexible solution whether the client communicated across the US or across the world. Made the communication between its corporate offices and its remote sales offices as well as product demonstrations with media, government and education prospects and customers easy and "clear." The ClearVoice dramatically improved the communication quality with a built-in functionality that prevented common audio problems such as echo, jitter and in-channel noise.
Result	The customer created a highly competitive VoIP conference product, as Clear Voice technology helped to improve the quality of communication over IP.Since the market recongnized already that the IP is a cost-saving tool the ClearVoice technology goes with it hand-in-hand. ClearVoice enabled true two-way collaboration using voice and video. Provided self-adjusted, continuous and adaptive removal of background noise from speech. Improved voice quality and intelligibility. Decreased subscribers' listening fatigue. Reduced time of communication due to the elimination of double-checking. Improved voice compression system quality.

Company Name	**StarSoft Development Labs**
URL	www.starsoftlabs.com
Industry	Software and technology
Client Name	IBM
Technology	J2EE, EJB, RMI, BEA WebLogic, IBM WebSphere
Scope Summary	Enterprise Application Integration
Task Summary	WebSphere® Information Integrator (II) Content Edition allows access to many different content repositories and workflow systems through a single, Java™-based, bi-directional interface.The product also features a uniform superset API which remove the need to code to multiple APIs from different vendors. Out of the box connectors to leading content repositories quickly unify a broad range of content sources and workflow systems without the cost, complexity and risk of custom programming efforts.
Business Objective	This product must translate the requests made to access services (such as searching or capturing content) to the vendor-specific APIs of content repositories and workflow engines. This translation is done by connectors, which also normalize the results of those operations and return the data to Access Services. Because of the particular demands for this project, IBM needed a vendor who could provide a team of engineers with deep analytical ability along with top-notch research skills and a thorough understanding of the specifics of EAI development.
Solution	StarSoft's assignment includes development of new connectors for WebSphere II Content Edition, as well as testing and support for previously developed connectors. StarSoft provides IBM with the development/maintenance team that consists of a project manager, 4 developers and 1 test engineer. The central challenge lies in the fact that for a new connector to be developed, numerous research tasks have to be successfully solved by StarSoft. For every new connector, the structure and organization of the corresponding repository has to be thoroughly understood first, its function and API studied in detail. Only then can implementation begin to take place.
Result	The StarSoft team involved in the project is managed in an efficient and flexible manner, accommodating new tasks coming from IBM. In the course of the collaboration, StarSoft has covered the following items: - Development of Hummingbird and Doorways connectors - Internalization testing for Russian and Japanese languages - Upgrade of Domino Doc and Doorway connectors to new versions - Bug fixing for Lotus 5 and Lotus 6 connectors - Bug fixing for Lotus MQ Series and Domino.Doc connector

Company Name	**VDI**
URL	www.vdiweb.com
Industry	IT (Product Development)
Client Name	Global Leader in Document and Content Management Systems
Technology	C++, ASP and ASP.Net, COM/DCOM, MTS and MSMQ, .Net, MS SQL, Oracle, Sybase
Scope Summary	Product Development
Task Summary	The Customer has long been on the leading edge of the Electronic Document Management System (EDMS) market. Known worldwide as a provider of reliable enterprise solutions, the Customer is traded on major North American exchanges and employs over 1400 people in more than 50 countries. The Customer has depended on VDI as an integral and long-time partner in the development of several key components of its best selling products.
Business Objective	In order to be competitive in the EDMS market, the Customer needed to develop a new generation of products for the company from scratch (replacing outdated client-server architecture). In order to carry a product that stays ahead of the industry curve and meets the varied requirements of its customers, the Customer turned to VDI.
Solution	In the Customer Dm family of products VDI has developed several key components that have contributed to the programs' success and the company's place atop the market. • Developed a concept and architecture for a scalable, enterprise level system • Implemented a pluggable architecture, which is to this day (since 1996) at the core of the Customer's DMS • Complete product development lifecycle – from user groups to define requirements to final (release) testing and support of the Customer's Development Community
Result	• Over 60 projects between the Customer and VDI in the last 6 years • Today over five million users, representing 90% of the Fortune 500 rely on the Customer to connect, manage, access, publish and search their enterprise content • This product line alone has generated more than $400M for the Customer over the past 7 years

Manufacturing

Company Name	**Digital Design**
URL	www.digdes.com
Industry	Manufacturing
Client Name	International Paper, USA
Technology	.NET Framework (RC) ASP.NET ADO.NET SQL Server
Scope Summary	Order-tracking system for International Paper
Task Summary	This project was dedicated to developing an order-tracking system for client support personnel and company management.
Business Objective	The aim was to facilitate and to regulate the global operations of International Paper in nearly 40 countries, with 83,000 people employed worldwide and export volumes to more than 120 nations.
Solution	The system is integrated with Scala ERP, Prodis (production control system) and TPC (Transportation Process Control) system. Main functionality is to provide information about order placement, production, stock availability, credit control, transportation and customer complaints. The system is being used in the real production environment serving a big number of International Paper clients' requests. Service interface: - User and administrator's interfaces of the system are implemented using ASP.NET Business layer: - NET Framework is used to implement business transactions and provide integration Data access layer: - ADO.NET Datasets model is used to provide data exchange with the SQL Server database
Result	Better performance

Publishing

Company Name	**PHYSICON (OpenTeach Group)**
URL	www.openteach.com www.physicon.ru
Industry	e-Learning
Client Name	Major educational publishing company, USA
Technology	Java, EJB, Servlets, Web Services (JAX-RPC, SAAJ), Struts, XML/XSL, Oracle, Macromedia Flash.
Scope Summary	e-Learning management system & electronic media content development
Task Summary	To develop web-based e-Learning system of national scale supporting universities and colleges learning process based on Publisher's textbooks sold on USA market, providing its users with rich innovative e-Learning experience along with huge amounts of constantly added new interactive learning objects.
Business Objective	To boost Publisher's higher education textbook sales by providing all students and teachers using these books with free access to the online e-Learning system to be developed. Additional value for all types of system potential users should be obvious and competitive through innovation if compared to other e-Learning systems on the market provided by other publishers.
Solution	The customer has chosen PHYSICON (OpenTeach Group) as system's developer thanks to its deep expertise in e-learning systems and successful track record with most of major US publishing companies. To achieve accessibility goals the system was designed and implemented as thin client web application using Java and Flash plug-in for interactive objects, such as problems and simulations, while server side was a cluster of Sun SPARC stations running BEA WebLogic application server and Oracle database. PHYSICON's content creation team developed about 500 000 learning objects, mostly algorithmic problems of more than 50 interactive problem types. The system provided its users with all kinds of services for both online and conventional offline learning process, including algorithmic problems-powered quiz generating and printing service and intellectual parser tools for automated transformation of test questions stored in some older format (like MS Word) into the system's internal test bank.
Result	The system fully met business requirements and client's needs. Since the system went online the textbook sales increased by 20-100 %, especially in Math and Statistics, the disciplines having the hugest amount of content in the system, which is an exceptionally good result for a mature USA publishing market. Currently the system is used in nearly 1000 educational institutions all over the USA, it has an average of about 20 000 users simultaneously working online. The system is constantly evolving, offering more and more high quality e-Learning content and services to its users.

Semiconductor Industry

Company Name	**eVelopers Corporation**
URL	www.evelopers.com
Industry	Semiconductor
Client Name	Philips Semiconductors, the global leader in semiconductor industry
Technology	J2EE, XML/XSL, Oracle, iPlanet
Scope Summary	Application Development
Task Summary	The system is a part of Philips Semiconductors eBusiness strategy and was developed to connect the company with its customers and distributors over the secure Internet portals.
Business Objective	The main business objective of the project is to support the industry demand for e-business applications allowing automating critical business processes and facilitating B2B transactions. PRO system was to be developed for Philips Semiconductors Channel Marketing sales organization in order to replace the old manual-fax-Excel-Access based systems used by various Philips partners and distributors. Distributors used to fill out the NEDA (National Electronic Distributors Association) form manually and fax it to their Sales Reps. Sales Reps collected this information in Excel workbooks or Access databases and submitted to Philips management in periodic status reports. The format varied from Sales Rep to Sales Rep, so there was no easy way to get the total picture about Design Registration program.
Solution	The PRO System allows Distributors to fill out the NEDA (National Electronic Distributors Association) form electronically through a secure extranet web application. All Design Registrations are stored in an Oracle database repository. Design Registrations are automatically routed to the Sales Rep offices and assigned to the appropriate territories. Sales Reps receive submitted Design Registrations and approve or reject them on-line. E-mail notifications are generated to all parties involved.
Result	PRO system saves Philips and partners over $3M per year (source: Product Manager, Worldwide eBusiness). Having all Design Registration activity going through the PRO system and gathered in the Oracle database allows Philips Regional Distributions Managers to have instant access to up-to-date Design Registration data. Distribution Marketing Management has the ability to analyze Design Registration program data effectively using variety of queries and pivot table reports. Distributors, Sales Reps, and Philips Management are able to conduct business electronically. Design Registration system and data are available 24/7 to all the users. 100% accuracy is achieved by integrating PRO with Price Book. Data stored in the Oracle database makes analysis of the Design Registration Program very effective.

Sports and Entertainment

Company Name	**ContekSoft**
URL	www.conteksoft.com
Industry	Sports and Entertainment
Client Name	Albatros Datenservice GmbH, Germany - www.albatros-software.net. Major European producer of IT solutions for golf courses.
Technology	FireBird, Borland C++ Builder, XML, HTML, Touch-Screen UI, TWAIN API
Scope Summary	Application Development and Maintenance
Task Summary	Continuous development and maintenance of golf course management software
Business Objective	In September 1999 the main product of Albatros Datenservice - Golf Management System - was installed in about 280 golf clubs of Germany. Albatros company itself had initially developed the system. Later the development had been subcontracted to a remote team of Portuguese programmers. The quality of source code was rather poor. The objective was to make Albatros Golf Management System number one among similar systems in Europe by rewriting the source code and enhancing the system with new features.
Solution	After preliminary discussions and a personal visit to ContekSoft facilities in Tomsk, Albatros decided to outsource all the development work to ContekSoft. The project began with 3 months of on-site work with 2 ContekSoft programmers in Germany. They undertook a thorough analysis of the system and proposed ways of product improvement. In 2000 ContekSoft set up a dedicated development team. Since that time the initial architecture of the system was completely redesigned and several new modules were added. Today the project team includes 8 full-time developers who provide continuous development and enhancement of the software.
Result	Albatros Golf Management System has turned into a complex, architecturally complete, stable and highly customizable system. The system is used in more than 400 golf clubs worldwide. Albatros has become the largest European provider of IT solutions for golf courses.

Telecommunications Industry

Company Name	**Artezio**
URL	www.artezio.com
Industry	Telecom
Client Name	World leading provider of telecommunications networking software (USA)
Technology	C/C++, SQL, HP-UX 11i, Unix Message Queues, Distributed Computing Environment RPC, HP Serviceguard, Microsoft Windows 2000/XP Professional, CORBA (Borland's VisiBroker), Sybase PowerBuilder, Java, JDBC, JSP, applets, XML, Oracle 9i Database, TL1, SNMP
Scope Summary	Maintenance of telecommunications software.
Task Summary	The client initially involved Artezio in maintenance and enhancement of a mature software product whose active development phase ended 7-8 years ago. Artezio's contribution was to develop plug-ins for new network element models that come out by dozens every year, incorporate new features into the software as requested by the client, correct defects, develop test cases, and run regression and new feature testing. Satisfied with the quality and level of delivered services, the client recently expanded the scope of cooperation and signed up Artezio for a long-term maintenance of another related product.
Business Objective	Artezio's objective was to create a dedicated team of developers and testers that became a virtual extension of the larger product team at the customer headquarters in the U.S. Software development process at Artezio was to be organized around completing detailed technical requirement descriptions for new features that client's software architects periodically sent down to Artezio for implementation and testing. Once the customer decided to expand operations and sign up for a maintenance plan for the other software product, the business objectives were very similar and it was easier to understand and implement them.
Solution	Artezio allocated separate premises with locked access and an isolated LAN specifically for the purposes of each of the projects. It assigned 20 experienced software engineers whose responsibilities included writing software code, writing up test cases, and testing. Although they represented a small fraction of the customer product teams consisting of over 100 professionals (including marketing, training, and management), their share among software engineers was more significant.
Result	From the moment when Artezio stepped into product maintenance, both software products have gone through several commercial upgrade releases. The initial stage of the project has proven to be a success and work will continue into the future by possible expansion of offshore operations. The initial results indicate that overall maintenance costs are decreasing even though there have been expenses associated with operations ramp up. The overall maintenance cost reduction allows the client to pass on savings to their own customers and stay competitive.

Company Name	**Artezio**
URL	www.artezio.com
Industry	Telecom
Client Name	World leading provider of telecommunications networking software (USA)
Technology	J2EE, C and C++, SQL, HP-UX 11i, Microsoft Windows 2000/XP, Oracle 9i Database, CORBA, Segue SilkTest
Scope Summary	Co-development of several telecommunications networking applications. Set up anoperation of a software development center serving as an extension of customer's own software development department.
Task Summary	The customer planned to make Artezio a part of its ambitious plans to modernize its several existing operations support systems, network management and productivity applications, migrate away from stovepipe and loosely integrated system architecture, and come up with scalable and interoperable applications with a common data model and GUI. These applications were to be able to be seamlessly integrated into arbitrary open standard and policy enabled solutions ready to use by telecom operators.
Business Objective	The long-term business objective was to become an offshore extension of the large U.S. based software development company and to assume the role of a capable software development powerhouse committed to quality and guaranteed delivery of services. With stringent rules defining the software development process, unique corporate management style and tradition, a diverse heritage of several generations of telecommunication support systems (ranging from mainframe based to modern systems utilizing the J2EE technology), the customer was expecting Artezio to learn quickly and become a part of their corporate life.
Solution	To address the challenge, Artezio has setup a software development center in Moscow, Russia. It was solely dedicated to the customer's tasks and had its own permanent staff, a comfortable facility, modern equipment and other resources. Artezio started with a team of 5 developers, and in two years ramped it up to over 35 developers, testers, and other professionals. An important issue raised by the customer was to ensure that the Artezio quality assurance program complied with the highest international standards. To meet this requirement, Artezio received the ISO 9001:2000 certification and is currently moving toward a CMM certification.
Result	Artezio has contributed to the customer’s portfolio of next-generation solutions as well as to the evolution to open standards of their once-proprietary systems. The new modernized software product line is providing mobility, wire, line, and cable operators with open, scalable and efficient solutions for lower costs. The common database has been production tested to store terabytes of information and to perform at a 200 multi-table transactions per second level. A typical production system is deployed on 16 top notch HP servers.

Company Name	**Fortess**
URL	www.fortess.com
Industry	Telecommunication
Client Name	A leader in the market of telecommunications solutions
Technology	C/C++, Java, core compiler technologies
Scope Summary	Application reengineering, innovation
Task Summary	The project goal is to make the existing development toolkit (the compiler from the specification language used in the subject area into code in the C/C++ languages) more convenient, to reduce the number of errors made by programmers when writing applications that use the generated files, to implement a convenient user interface, and to provide the required performance of the runtime libraries.
Business Objective	The project business idea consisted in the simplification of the system to be used by end users – minimizing the probability of errors arising during code writing and, consequently, increasing the effectiveness of development when utilized by the user of this toolkit.
Solution	The naming pattern of generated data types used in development has been simplified and the number of representation variants for each type in the C language has been reduced. API generation for work with data from the user program has been added. Run-time performance turning has been carried out on several platforms. Man-hours for the project amounted to 2 man-years. The design of all changes was performed with the customer's assistance.
Result	The result of the customer's product reengineering is a new product component – the RAD (Rapid Application Development) compiler. When using this compiler working with the product is considerably simplified for end users. As a result the customer won a tender for supply of their development toolkit to a large telecommunications company.

Company Name	**Fortess**
URL	www.fortess.com
Industry	Telecommunication
Client Name	A leader in the market of telecommunications solutions
Technology	Telecommunication specification notations, XML, XSLT, XSD, C/C++
Scope Summary	Extending the functional of the existing product (development toolkit), adding the capability of working with XML
Task Summary	Developing and adding a new functional to the existing product, the creation on its basis of a new generation product (compiler and runtime for the XML Schema language).
Business Objective	The main project business ideas are: Implementation of the "binary XML" concept. 1. Provide users utilizing XML-schemas with the capability to exchange binary data both with each other and corresponding applications based on specifications written in the language used in this branch. 2. Provide developers using this specification language with the capability to exchange XML data both with each other and corresponding XML applications
Solution	Creating a new compiler and run-time, integration with the customer's existing product, extending the functional of the existing product. The costs of development were 4 man-years. Support of XML technologies (XSLT, XSD) has been built into the existing product, support of the industrial standards ITU-T X.693, X.694 has also been implemented.
Result	A lexical and a syntactical parser have been developed, the semantic analysis of XML Schema files has been implemented, the integration pattern of new code with the existing product, the technique of testing and a test case base (including the standards described in the XML Schema language), as well as the means of regression testing have been developed.

Company Name	**StarSoft Development Labs**
URL	www.starsoftlabs.com
Industry	Telecommunications
Client Name	T-Mobile
Technology	J2EE, BEA WebLogic, Sun, DB2
Scope Summary	Web-enabled development, Legacy migration
Task Summary	T-Mobile contracted StarSoft in May 2004 to overhaul legacy website chain. StarSoft team is responsible for graphical design, database design, development, testing and support. On this project, StarSoft engineers work very closely with their colleagues within T-Mobile, being practically integrated into the T-Mobile distributed development team. Originally, the T-Mobile UK website was re-engineered to allow for a new common framework. That solution is now being customized for and implemented in other geographies.
Business Objective	The purpose of the project is to reorganize T-Mobile's web business and boost sales of services through the web by providing T-Mobile customers across different European markets with the common functionality and user experience delivered via a new unified framework that is robust, consistent, customization friendly, and features a unified look-and-feel.
Solution	The primary challenge lies in the fact that the new functionality was to be built on top of the old existing web shops. It was not possible to shut down the existing sites, so the new functionality was implemented and deployed in iterations, which entailed a great deal of integration between the old and the new technologies. The other challenge was to formulate and implement common business logic across the multiple websites. The new framework had to be both scalable and flexible enough to allow for customization in the different markets.
Result	With the new common framework developed by StarSoft, T-Mobile has significantly cut its development costs. T-Mobile websites across a number of European markets will from now on feature a common interface and functionality, providing T-Mobile customers with a consistent user experience and the new advanced possibilities to purchase price plans and manage their accounts online.

Company Name	**LANIT-TERCOM**
URL	www.lanit-tercom.com
Industry	Network & Telecommunications
Client Name	Krasnaja Zarja, Russia
Technology	Texas Instruments Code Composer Studio for DSP programming WinDriver CAD for PCI drivers development Microsoft Visual C++6.0 for PC-based control SW development Orcad 9.2 IDE (Cadence) PCB Design and Layout
Scope Summary	Development & Implementation
Task Summary	Use in communication networks based on E1 trunks. Fully autonomous device. Remote network control is supported through Fast Ethernet networks with the use of the protocol SNMP. Used to backup data from E1trunks. Continuous copying of all information in an E1 trunk over the course of six 24-hour days. 4 E1 (2Mb/s) trunks. Full-duplex saving and reproduction of data in real time.
Business Objective	The backup device for E1 trunks "URHI" is intended to use as information storage during E1 trunk failure. The idea is to store information when it is impossible to send it, and send it later, when E1 connection restored.
Solution	• Industrial PC platform with a Pentium-III processor running under Microsoft Windows 2000 • PCI module for connecting to the switching junction with 4 E1 (2Mb/s) trunks, developed in Lanit-Tercom: o Central processor of the PCI module - DSP TMS320C416 600MHz (4800 Mips) o SDRAM (128 Mb) memory o Module configured through a PCI-interface o Embedded software realization for specific DSP architecture o E1 Interface is provided for by an Infineon PEB22554 framer • Full-duplex saving and reproduction of data in real time • Remote network control throw Ethernet • SNMP protocol for remote control • Flexibility: embedded software can be reloaded via Ethernet
Result	The result is a device with original hardware platform and unattended mode.

Company Name	**MERA Networks**
URL	www.meranetworks.com
Industry	Telecommunications
Client Name	A world-leading telecom equipment manufacturer
Technology	C++, Java, XML
Scope Summary	New application development
Task Summary	The customer needed to perform full-capacity GSM Home Location Register traffic testing, for which they required an efficient traffic generator capable of simulating large volumes of concurrent calls.
Business Objective	The universal traffic generator available at the time to the customer required special hardware and was costly to support and enhance. Thus, the customer needed a new compact low cost GSM Home Location Register traffic testing solution to provide for the necessary functionality at a better cost.
Solution	MERA's team developed a service-strong, cost-effective GSM HLR/HSS Traffic Generator meeting every customer requirement. The solution was purpose-built to simulate GSM traffic and test HLR capabilities via IP network, to perform runtime measurements, keep logs and statistics and generate user-convenient report files. The product's functionality allows for capacity, functionality and functionality testing, and includes generation of a high flow of outgoing messages (about 10,000 per second), on-receipt verification of incoming message contents, compatibility with major wireless standards.
Result	From the very beginning of the project, MERA HLR Team got up-to-speed very fast, provided a fast ramp-up of the project headcount and delivered the product on time and with good quality despite an extremely tight time frame. Other benefits that the customer derived from the project were: - Very low cost of the product - Minimum product support effort and a quick turnaround on reported problems (product support provided by Mera team as well) - Product compatibility with major wireless standards - No need for special hardware infrastructure.

Company Name	**MERA Networks**
URL	www.meranetworks.com
Industry	Telecommunications
Client Name	A world-leading telecom equipment manufacturer
Technology	Sl1, C, C++, X-View, Solaris OS, TCP/IP, H.323, SIP
Scope Summary	Software product sustenance and enhancement
Task Summary	The customer was looking for a software service provider to sustain and enhance PBX software running under the VxWorks OS for Enterprise Switches/Messaging Systems.
Business Objective	Through outsourcing the sustenance & enhancement task, the customer gained the opportunity to quickly ramp up resources for expanding to new IT areas.
Solution	MERA's Sustaining Team provided efficient sustaining and enhancement services showing the same productivity as the customer's team. Later, MERA's collaboration with the customer in the area of product sustaining expanded to the field of digital phones firmware sustenance.
Result	- Complete and cost-effective product sustenance and enhancement. - Quality and on-time service delivery

Company Name	**Reksoft**
URL	www.reksoft.com
Industry	Telecommunications
Client Name	Swisscom Mobile AG, www.swisscom-mobile.ch
Technology	SUN Solaris 8, Oracle 8.1.7 Enterprise, J2EE, BEA WebLogic
Scope Summary	Development and maintenance of a technologically advanced, user-friendly and extremely reliable software application based on the client's requirements by a dedicated offshore Project Group.
Task Summary	To design, implement, integrate and support an **Alert and Notification Engine** for Swisscom Mobile VAS delivery platform. Alert & notification platform is required to be able to process millions of SMS/MMS messages, photos, sounds, games and live news to be delivered to the mobile phones of its subscribers. The messaging service offered with Vodafon live! Allows MMS, e-mail, SMS or chat messages to be sent and delivered from/to mobile phones or PCs.
Business Objective	To meet the growing demand for additional mobile services, Swisscom Mobile has launched its **Vodafone live!** Mobile portal to offer messages, photos, sounds, games and live news to be delivered to the mobile phones of its subscribers. The messaging service offered with Vodafon live! Allows MMS, e-mail, SMS or chat messages to be sent and delivered from/to mobile phones or PCs.
Solution	The Alert Platform for Swisscom Mobile Portal enables mobile subscribers to activate, use and modify personalized messaging services directly from their mobile terminals. The Alert Platform allows for integration of a number of content providers and portal subsystems.
Result	With the launch of the Alert Platform developed in cooperation with Reksoft, Swisscom Mobile has significantly increased the value of services provided to its subscribers from the Vodafon live! Portal. The Alert Platform sends out up to 6 mln. Messages/month. Thanks to the flexible architecture of the developed solution and proven cooperation of Reksoft and Swisscom Mobile, continuous improvements and new features are constantly added to the Alert Platform functionality on release basis, in order to keep pace with the ever growing demands.

Company name	**"Speech Technology Center Ltd"**
URL	www.speechpro.com
Industry	Telecommunications
Client name	GATELINX
Technology	Clear Voice algorithms
Scope summary	Technology development, innovation and management
Task Summary	Minimization of bandwidth requirements and utilization of existing infrastructure to deliver crystal clear voice over IP.
Business Objective	To enhance quality of Voice in VoIP conferences using the STC Denoiser Clear Voice technology , thus increasing customer's satisfaction and cutting down costs of using VoIP voice channels.
Solution	The Clear Voice Technology provided an affordable, efficient and flexible solution whether the client communicated across the US or across the world. Made the communication between its corporate offices and its remote sales offices as well as product demonstrations with media, government and education prospects and customers easy and "clear." The ClearVoice dramatically improved the communication quality with a built-in functionality that prevented common audio problems such as echo, jitter and in-channel noise.
Result	The customer created a highly competitive VoIP conference product, as Clear Voice technology helped to improve the quality of communication over IP. Since the market recognized already that the IP is a cost-saving tool the ClearVoice technology goes with it hand-in-hand. ClearVoice enabled true two-way collaboration using voice and video. Provided self-adjusted, continuous and adaptive removal of background noise from speech. Improved voice quality and intelligibility. Decreased subscribers' listening fatigue. Reduced time of communication due to the elimination of double-checking. Improved voice compression system quality.

Company Name	**SPIRIT**
URL	www.spiritdsp.com
Industry	Telecom
Client Name	Texas Instruments, the world's leading designer and supplier of digital signal processors and analog integrated circuits
Technology	digital signal processing and analog technologies
Scope Summary	The task was to develop an integrated Client Side Telephony solution, C54CST, on TI's C54xx processing platform.
Task Summary	In search for a partner to provide DSP software algorithms for the innovative Client Side Telephony (CST) solution TI selected SPIRIT in a worldwide tender against 20 US and European DSP software companies because of its extensive telephony algorithm knowledge, software excellence, timely support, and quality of user documentation. Partnership between SPIRIT and TI brought integrated (software + hardware) Client Side Telephony solution, C54CST, to the telecommunication market.
Business Objective	SPIRIT algorithms ROM-ed into TI's C54CST chip grant access to a single, validated source that will reduce time-to-market and eliminate the inherent costs associated with multiple third-party licensing agreements and substantial development delays. With SPIRIT solution there is no need to use multiple devices, negotiate with several vendors for various data and telephony algorithms and worry about proper interoperation. SPIRIT field-proven technologies lower costs and provide for substantial time savings.
Solution	Since 2002, SPIRIT integrated telephony software is embedded into the TI C54CST processor to become its integral component. SPIRIT label can be easily seen on the body of TI C54CST processor, which demonstrates high quality of SPIRIT solution. This was the first precedent of TI directly embedding the software into the processor. Solution offered by SPIRIT proved to be the most efficient. The new C54CST device with SPIRIT algorithms ROM-ed into the chip addresses all the market challenges, and provides a fast, reliable, flexible solution for incorporating telephony functionality into new products. CST software consists of 14 corresponding DSP algorithms (modem, baseline telephony, voice processing algorithms). *"The C54CST solution addresses the growing need of customers who are developing remote data collection applications to quickly, cheaply and reliably integrate low-bit rate telephony connectivity to industrial products," Mark Mattson, TMS320C5000™ program manager, TI said.*
Result	TI and SPIRIT long term collaboration achieved maximum performance with SPIRIT excellent CST support line which offers competent advice on CST-related issues and development of CST-based devices. With the technical part of the project completed, SPIRIT continues the partnership with TI by assisting in CST sales and support. TI expressed its impression by SPIRIT's developers' competence and rendered technical support by saying: *"SPIRIT's engineers played a considerable role in defining the CST product and were an invaluable resource in developing the CST software architecture."*

Company Name	**SPIRIT**
URL	www.spiritdsp.com
Industry	Telecom
Client Name	Philips, one of the world's biggest electronics companies and Europe's largest
Technology	Fixed-MMS phones
Scope Summary	Complete software package for developing Fixed-MMS phones
Task Summary	In search of a company that has sufficient expertise to deploy software solution for developing fully-functional fixed-line phone devices able to transmit and receive multimedia messages Philips stopped its search at SPIRIT. Backed on 12 years of experience SPIRIT engineers ensured the required technical functionality.
Business Objective	Philips needed a reliable software partner demonstrating competence in the level of engagement in the task and fast response to technical problems for manufacturing Fixed-MMS enabled phones. Due to new services and exciting terminal equipment designs the market of Fixed-MMS enabled phones is now estimated to be several billion USD. Experts believe Fixed-MMS to become more and more demanded all over the world.
Solution	SPIRIT commitment to deliver the impossible together with engineers experience allowed meeting all clients' expectations in the best way, so that the project was carried out on time without any problems or delays. SPIRIT solution based on C54CST chip is very simple in development and integration, it provides solid base for developing fully-functional fixed-line phone devices able to transmit and receive multimedia messages. SPIRIT technology makes telecommunication devices more cost-effective and reduces time-to-market.
Result	Using SPIRIT software telecommunication companies get the opportunity to produce single-chip Home Phones capable of sending and receiving SMS and MMS messages from mobile networks and provide service now considered to be the most innovative telecom service emerging in the world. SPIRIT excellence in project completition was celebrated by Daniel Lauk, BU Mobile Communications, BL Cordless & Imaging by Philips Semiconductors: "*Philips world-leading DECT platform uses SPIRIT modems for Fixed-MMS functionality and SPIRIT vocoders for auto answering machine with very tough system requirements for low-cost end-user products. We have to say that SPIRIT is committed to deliver the impossible...*"

Company Name	**SPIRIT**
URL	www.spiritdsp.com
Industry	Telecom
Client Name	Nortel Networks – a recognized leader in delivering communications capabilities that enhance the human experience
Technology	Networking solutions and services
Scope Summary	Software Development, Reengineering, Innovation & Maintenance
Task Summary	The customer was looking for a Fax over IP software. Nortel addressed SPIRIT as it offered the best combination of technical knowledge, reliability and flexibility. SPIRIT perfectly coped with the project challenges: 1. Need to develop all fax algorithms from scratch and then seamlessly integrate them into customer's target software and hardware 2. Strict technical specifications for hardware MIPS and memory requirements.
Business Objective	The primary business objective of the project was to develop a Fax over IP software solution, which was intended for sending fax messages over packet networks at rate up to 14400 bps. The solution guaranteed immunity to channel impairments and was tuned to operate in poor channel conditions.
Solution	Broad experience of project implementation and support has made SPIRIT a valuable Nortel partner able to efficiently resolve both technical and business issues before and after the delivery. SPIRIT assigned a team consisting of 2 engineers holding PhD degrees and 6 engineers holding masters degrees in mathematics, engineering and computer science to develop a Fax over IP solution with the required features. Final testing was done Nortel's office in LA. Additionally, a special approach was designed to make remote testing, logging an bug fixing right from SPIRIT location thus eliminating the necessity to go to customer's site and reducing overall testing time.
Result	SPIRIT successfully completed the Fax over IP project in January 2001 within the budget and within the required time frame. Perfect work of technical team helped to meet all the project challenges: all fax algorithms were developed from scratch and then seamlessly integrated into customer's target software and hardware; strict technical specifications for hardware MIPS and memory requirements were met. Due to the high quality and extensive testing done by SPIRIT the product has not yet required any significant maintenance. Off-site project development in Moscow Russia proved to be notably more efficient than the on-site development, which would have been done at the customer site. *"SPIRIT has served as a subcontractor for Nortel Networks since 1997 I have been extremely pleased with the relationship we have formed over the years. Their work has been of superior quality and was done with great technical expertise. Most importantly, I feel that SPIRIT went to extreme efforts to satisfy all of its clients in Nortel Networks."* said Marc Granic Managing Director, International R&D Operations.

Company Name	**VDI**
URL	www.vdiweb.com
Industry	Telecommunications
Client Name	The largest independent facilities-based provider of integrated telecommunications and internet services to Europe and the CIS.
Technology	COM/DCOM, Visual C++, VB Scripts, MS SQL 2000, Windows 2000, Visual Fox Pro , IBM WebSphere BI, WebSphere MQ, Pivotal eRelationship
Scope Summary	Reengineering and Integration
Task Summary	Through the rapid growth of its customer base and numerous acquisitions, the customer had become the market leader in the competitive telecommunications market. As a result of its recent acquisitions, the company had inherited multiple redundant business processes, systems, and technologies consisting of both Third Party software, as well as home grown applications. The company sought an integrated corporate information system which would support their crucial billing and customer relationship management (CRM) systems. An element that their management team believed to be central to the company's success.
Business Objective	Lack of an integrated information system paired with rapid growth had seen unproductive and redundant business process implemented to fill new needs quickly. Limited integration made it nearly impossible to have a singular, unified understanding of their customer base, and made tracking, billing, and servicing their voice, data, and internet customers increasingly inefficient. Lacking the resources to develop a solution that would combine all of their essential business processes, and seeking low development costs with high ROI, the customer chose VDI.
Solution	• An intensive research, requirement gathering, and infrastructure assessment phase allowed VDI's specialists to determine the best possible combinations and solutions for their customer's specific needs • Working closely with customer's staff, VDI performed a 'Gap/Fit' analysis to identify the CRM system and vendor that could best integrate with the new corporate system. • Carefully considering a wide array of options, the VDI team chose IBM's WebSphere integrator, leveraging IBM's MQ series to tie together these disparate systems with the next generation CRM solution. • Using a combination of COM/DCOM, Visial C++, VB Scripts, and Visual FoxPro, VDI delivered a multi-phased, 'best-of-breed' enterprise-wide solution • Following extensive quality testing with both VDI and the customer's specialists, and full knowledge transfer, the redesigned system was successfully deployed
Result	With their VDI designed solution in place, the company's customer service organization was able to kick into high-gear; reducing 'churn', as well as increasing customer satisfaction. Despite a deflation in telecom prices, the customer's infrastructure investment has seen them achieve 15% annual revenue growth. By providing a well designed, and comprehensive corporate solution on time and under budget, VDI has helped to increase customer's revenue and shareholder value- the true barometer of a successful investment.

Transportation

Company Name	**Digital Design**
URL	www.digdes.com
Industry	Transportation; Finance
Client Name	Interleasing (owned by General Motors), UK
Technology	• Microsoft Active Server Page (ASP); • Secure Socket Layer Protocol (SSL2); • Microsoft OLE DB; • Oracle PL/SQL; • Java Script.
Scope Summary	Digital Design Streamlines Interleasing's Vehicle Leasing System Using Microsoft and Oracle Technologies
Task Summary	A standalone file-based application, which has been used by Interleasing for many years to manage their vehicle leasing operations, provided a standard set of operations only. The task was to implement a Web interface to the leasing system that would enable online report production and quick data transfer to the leasing operators.
Business Objective	Increase in maintenance and data distribution was time and resource intensive; this in turn impacted service levels. The main objective was to resolve this problem.
Solution	Solutions Features: • Web interface to the present file based system; • Microsoft and Oracle technologies integration; • SSL2 protocol. The online functionality includes: • Detailed information browsing (Vehicles; Drivers; Allocations) • Report production (P11D reports; P46 (car) Vehicle Movements; Business Mileage; Miscellaneous expenses; Data accuracy checking reports) • Web transaction production (Vehicle and Drive Allocations; Drive Fines, Mileage and Contributions; Allocation Enquiries) For administrative purposes, a Database Administrator utility has been developed. This utility manages: • Web interface dataset client company schema; • Data Loading Agent parameters; • Leasing company operator mailing list; • Security within the Web interface
Result	Using the system created by Digital Design, drivers now update mileage and other information using an online form. The customer fleet manager views current data on cars and drivers online at any time and creates reports as required at a significant advantage. • Cut costs: Interleasing previously printed reports for each car and driver (at the time about 50,000 cars and 100,000 drivers). The new system eliminated the cost of paper and postage; • Save time: Users get completely current information at any time - the need for a weekly snapshot has been eliminated; • Speed: Access to information is as fast as the Internet connection. It is no longer necessary to call Interleasing to submit or get a new report; • Analysis: It is now possible to create queries and analyze historical information

Conclusion

History and new economic conditions have created the right climate for the Russian IT industry. The economic growth of non-IT markets has led to the development of a strong IT industry. These developments together with a well-educated and dynamic workforce allow Russia to bid for a sizeable share of the world's software development market.

Following is a SWOT diagram that accurately presents the current state of the Russian Offshore Outsourcing Industry at the time of this writing (June 2005):

Strengths	Weakness/Challenges
▪ Elite university system ▪ Highly skilled and ample workforce ▪ Array of specialised expertise capable of solving large-scale, complex technical problems ▪ Vertical Domain Expertise ▪ Cost of labor advantage compared with the US and Western Europe ▪ Geographic proximity to Western Europe and the US ▪ Cultural proximity to the West	▪ Leadership of RUSSOFT as industry association should be strengthened ▪ Organised marketing campaign and country positioning should be continued ▪ ESPs should overcome size challenge by driving industry consolidation ▪ ESPs should add value to AD offering by further growing vertical expertise ▪ Perceptions of corruption/lack of intellectual property protection should be overcame ▪ Government support should get traction
Opportunities	**Threats/Risks**
▪ Expansion into Western Europe ▪ Provide geographic diversity - an alternative to India for risk-mitigation purposes ▪ Capability to offer specialised engineering applications ▪ RUSSOFT: newly established industry leadership ▪ Newly established government support	▪ India, China and other competitors ▪ Government focus: initialized government support should get traction

SWOT: Russian Offshore Outsourcing. Source: RUSSOFT 2005

About Russoft

RUSSOFT is the nationwide Russia's Association of the largest and most technically competent software developing companies and the premier trade body and the chamber of commerce of the IT software and services industry in Russia. A close interaction with the Government in formulating National IT policies is one of many initiatives led by RUSSOFT.

RUSSOFT plays an active role in the international software community by providing the most accurate and up-to-date information on the Russian software market. Russoft serves analysts and the world business community as the most reliable source of information by conducting regular market studies and keeping a detailed database of software developing companies in Russia. More information can be found at www.russoft.org

Appendix A: Featured Outsourcing Vendors Profiles

Premier Sponsors	
iti Consulting International	ITCI is a global supplier delivering lasting customer value through a full spectrum of cost-effective technology and human capital solutions. Our Fortune 500 and mid-size clients take strategic advantage of our local presence and global delivery capabilities through our five office locations in Russia and the US. Our unique organizational and operational structure allows us to provide scalability while maintaining the customer service and quality of the world's highest-end IT providers. **www.itci.com**
Platinum Sponsors	
LUXOFT Lighting the way	LUXOFT, a global IT company, is Russia's leading software developer and IT services exporter. The company provides a full range of custom software development services. LUXOFT development processes were the first in Europe to achieve Level 5 CMMI quality certification. LUXOFT enjoys long-term business relationships with Fortune 500 corporations, mid-size growth companies and ISV's. Luxoft's solutions span across the IT, Manufacturing, Energy, Aviation, Finance and Government sectors. **www.luxoft.com**
MIRANTIS	Mirantis is a premier provider of Technology Development Centers (TDCs) for technology suppliers and enterprise IT organizations. Mirantis extends its clients' core R&D capabilities by creating an offshore TDC that seamlessly integrates with the client's existing development teams. Mirantis is the leading provider of the Build-Operate-Transfer (BOT) model that ensures a systematic process that guarantees a smooth transition from the managed TDC to a wholly owned company offshore operation. **www.mirantis.com**
Reksoft®	Reksoft is an ISO-9001 certified offshore software development company with headquarters in St. Petersburg. Since the early 1990s, Reksoft has been on the avant-guard of the Russian IT-industry. Today, Reksoft client's worldwide benefit from our dedication to advanced technologies, brilliant scholastic background and foreign-language skills, along with world-class project management and development methodologies, topped off by the friendly collaboration atmosphere. **www.reksoft.com**
Gold Sponsors	
APLANA SOFTWARE SERVICES	APLANA Software, a member of a leading Russian technology group I.T. Co, focuses on custom software development, maintenance and testing. APLANA's services are recognized for high effectiveness of production processes, excellence of customer relationships and high flexibility in resources allocation. Among APLANA customers are multinational companies such as GE, TetraPak, P&G, Wrigley and major Russian enterprises - MTS, TNK-BP, YUKOS, and Central Bank of Russia. **www.aplana.com**
AURIGA	AURIGA, one of the world's leading software services firms with engineering centers in Russia, offers robust business and technology solutions to the high-tech industry worldwide. We help our customers to develop, test, and maintain the most competitive software products and solutions. AURIGA's software outsourcing and technology-strategy consulting services are being recognized as best-in-class by global high tech majors for constant quality and groundbreaking innovation. **www.auriga.com**
vdi Vested Development Inc.	A global software outsourcing provider, Vested Development Inc. (VDI), has over 11 years experience in developing software solutions for Global 2000 corporations and ISVs. VDI provides an array of IT outsourcing services spanning IT, Telecommunications, Healthcare and Financial industries with specialization in legacy systems reengineering and Enterprise Application Integration (EAI). VDI offers project based and Offshore Development Center (ODC) engagement models. **www.vdiweb.com**

Company Name	Company Profile
Artezio	Artezio is an ISO 9001 certified software development and consulting company based in Moscow, Russia. Over the last four years Artezio has completed more than 100 projects for its international corporate customer base. Artezio strives to be a major player in the global IT outsourcing market by allowing its clients to deploy multi-platform applications, thus letting them leverage the full array of modern software technologies. **www.artezio.com**
Atapy Software	Located in Novosibirsk, the cradle of the first heavy-duty, industrially implemented ICR technology in history, and being close to many research institutions that provide top-notch experience, ATAPY Software is able to solve nearly any task within the domain of computer linguistics. We employ highly professional engineers and linguists allowing us to provide numerous computer-related services, including imaging, data format conversion, OCR/ICR applications design and many others. **www.atapy.com**
ContekSoft	ContekSoft is specializing in software and web development and design for SME's. We have successfully completed more than 40 projects for clients and partners from Russia, Europe and the USA. ComtekSoft has a worldwide network of representatives. We also have long-time business relations with Russian software companies as subcontractors. We are looking to expandour business via providing ICT and related services to Western corporate customers. **www.conteksoft.com**
DataArt	DataArt is a well-established offshore software outsourcing company with headquarters in New York City and a state-of-the-art R&D center in St. Petersburg. Founded in 1997. Focus: Small and Mid-size businesses. Key verticals: financial, life sciences, and telecommunications. Areas of expertise: network applications, corporate databases, and business automation tools, (CRM, content management systems). DataArt maintains offices in San Francisco, Jacksonville, FL, Chapel Hill, NC and London, UK. **www.dataart.com**
Digital Design	Digital Design provides solutions in custom software development, IT consulting and customers support services worldwide. Digital Design is the one of the first software companies in Russia to achieve 9001 ISO and CMMI Level 3 certifications; and the first one to receive the National Quality Premium. Digital Design has one of the highest percentages of certified specialists within the company. **www.digdes.com**
EPAM Systems	EPAM is one of the most experienced and largest providers of outsourced software engineering in Central and Eastern Europe. Recently EPAM was named No. 1 of "Top 5 to Watch in Central and Eastern Europe" and No. 3 of "Top 10 Specialty Application Development Leaders" in global "Offshore 100."EPAM's customers include SAP, Reuters, Colgate-Palmolive, London Stock Exchange, Hyperion, BEA Systems, Microsoft, T-mobile, and British Telecom. **www.epam.com**
eVelopers	Founded in December 1999, eVelopers is an ISO 9001:2000 certified software development company that specializes in developing custom secure web and mobile applications. The company is headquartered in Silicon Valley, California with a software development center in St. Petersburg, Russia. eVelopers has long-term experience and expertise in developing e-business applications for semiconductor industry, in-browser web based financial options brokerage services, online marketplaces, and custom mobile applications. **www.evelopers.com**
Fortess	Fortess specializes in offshore software development for telecommunications industry. Fortess is a team of professionals with a wealth of experience in the development of applications for telecommunications and data processing. By applying advanced technologies and innovations we make information exchange more effective and safe. We pay special attention to the quality of the services we provide using processes based on ISO and CMM standards. **www.fortess.com**

IBA Group	IBA Group is a powerful IT service provider headquartered in the Czech Republic, its other locations being Belarus, United States and Germany. The IBA's 1,500 – strong team is composed of leading industry professionals. Being at SEI CMMI Level 4 and an ISO 9001:2000-certificated company, IBA specializes in software development, migration, maintenance, and 24x7 support. With its unmatched expertise, up-to-date infrastructure, and 12-year experience in global outsourcing, IBA provides efficient and cost-effective solutions that enhance the business opportunities of its customers. **www.iba-it-group.com**
INFOPULSE UKRAINE	INFOPULSE UKRAINE is one of top-five Ukrainian outsourcing service providers. Customer-oriented company practices high standards adherence and leading development methodologies. 12 years of successful operation in the software market. Specialization; tailor-made solutions for Financial Management, Billing, Procurement, Embedded systems and other areas. Provides totality of software, implementation services for competitive prices. ISO certified management system. Distinguished in Gartner report. Main customers in Europe and USA. **www.infopulse.com.ua**
LANIT-TERCOM	LANIT-TERCOM has more than 25 years of experience in customer optimized products: the core team consists of more then 300 specialists and develops complicated hi-tech world class software, hardware and new age telecommunication solutions. Since 1998 we are a part of LANIT Holding. Our primary areas of specialization are communications network software and hardware; software and hardware reengineering; digital signal processing systems; printed circuit board design. **www.lanit-tercom.com**
MERA Networks	MERA Networks provides a wide range of offshore programming services to world's leading IT and telecom equipment vendors. With 15+ years experience in offshore programming in the most rapidly developing sectors of the IT market, MERA Networks is a complete source of offshore software development services that accompany the product at every stage of its lifecycle, from design and development to sustenance and testing. **www.meranetworks.com**
PHYSICON (OpenTeach Group)	PHYSICON (OpenTeach Group) is a leading Russian developer of e-Learning software and information systems for business and education, providing its products and software development services on the global market for more than 10 years. PHYSICON's team consists of 150 specialists capable of both content and systems development. Our products are translated into 7 languages and published in 15 countries worldwide, our services are chosen by a number of world-leading corporations, our regular customers. **www.openteach.com www.physicon.ru**
Speech Technology Center	Speech Technology Center is a leading provider of speech technology and security equipment. Since 1990, STC has developed technology, which allows customers to solve a wide array of scientific tasks ranging from design to implementation across every sphere of speech technology. STC clients include Law Enforcement agencies, Police Departments, Call-Centers, Emergency Services and other organizations that utilize speech acquisition and processing. **www.speechpro.com**
SPIRIT	SPIRIT employs about 120 professionals, has been in international software licensing business since 1992. SPIRIT focus is communication DSP and VoIP software products, and today SPIRIT counts Agere, Atmel, Ericsson, Flextronics, Furuno, Hyundai, JRC, LG, Marconi, NEC, Nortel Networks, Panasonic, Philips, Samsung, Siemens, Texas Instruments and Toshiba, among 150+ other OEM clients. Through these brand names SPIRIT communication software is used in over 70+ countries. **www.spiritdsp.com**
StarSoft Development Labs	StarSoft Development Labs is one of the most dynamic and fastest growing providers of outsourced software development services in Russia and Eastern Europe. Founded in 1991, StarSoft has its HQ in Cambridge, MA and the development center in St. Petersburg, Russia. A CMM certified company, StarSoft possesses significant expertise in offshore development for healthcare, e-business, telecommunications, manufacturing, financial services, logistics, and other industries. **www.starsoftlabs.com**

RUSSOFT ANNUAL EVENTS

ROSS
(Russian Outsourcing & Software Summit)
One of the largest events in the field of IT outsourcing and offshore software development in Eastern Europe. The event consists of the Conference (600 people), Exhibition (about 30 stands) and a rich Cultural Program.

www.soft-outsourcing.com

Russian CIO Summit

Russian CIO Summit
Participants include IT decision makers from large and mid-size Russian companies, leading software development vendors, representatives of government and mass media. The goal of the event is to bridge the customers and the software developers.

www.cio-summit.ru

Open Source Forum

Open Source Forum Russia

The Open Source Forum Russia (in cooperation with Linux Ink) is the first conference and exhibition in Russia, which is entirely dedicated to open source software development. The primary focus of the Forum is on Linux, the most well known and successful Open Source project. Visitors have an opportunity to see firsthand complete solutions based on Linux systems and other Open Source technologies.

www.opensource-forum.ru

Russian IT Seasons

Russian IT Seasons

Russian IT Seasons is a one-day matchmaking event where leading Russian, Ukrainian and Belorussian software development companies arrange business meetings with top US companies. They share their experience of co-operation and outsourcing. The goal of IT Seasons is to provide a basis for long-term reliable relationships between market players.

www.it-seasons.ru

RUSSOFT at CeBIT

RUS®SOFT

Russian joint stand at CeBIT exhibition
We've been the organizers of the joint stand of the software development companies from Russia and CIS for 4 years.

www.russoft.ru/cebit

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